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Boulder River
Bridge - south of

Environmental Assessment
and
Programmatic *Section 4(f)* Evaluation

Boulder River Bridge - South of Boulder
BR 9022 (10)
Control Number 1093

Jefferson County, Montana

Prepared for:
Montana Department of Transportation

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Environmental Assessment
and
Programmatic *Section 4(f)* Evaluation
for
Boulder River Bridge – South of Boulder
BR 9022 (10)
Control Number 1093
Jefferson County, Montana

This document is prepared in conformance with the Montana Environmental Policy Act (MEPA) requirements and contains the information required for an Environmental Assessment under the provisions of ARM 18.2.237(2) and 18.2.239. It is also prepared in conformance with the National Environmental Policy Act (NEPA) requirements for an Environmental Assessment under 23 CFR 771.119.

Submitted Pursuant to 42 USC 4332(2)(c) 49 U.S.C. 303
and Sections 2-3-104, 75-1-201 M.C.A.
by the
U.S. Department of Transportation
Federal Highway Administration
and the
Montana Department of Transportation

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(Includes: Bridge Sufficiency Report, Memorandum of Agreement, Determination of Effect, SHPO concurrence letter, and Bridge Inventory Forms)
Appendix B: Meeting Minutes, Meeting Handouts and Newsletters

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Executive Summary

The Montana Department of Transportation (MDT) proposes to replace the Boulder River Bridge located on Hubbard Lane (County Road 085) in Jefferson County approximately 3.7 kilometers (2.3 miles) southeast of Boulder, Montana. The current structure, locally known as the "Red Bridge", is a one-lane, single-span truss built in 1899. The timber decking and running planks are in generally poor condition, according to the Structural Inventory Report dated February 13, 1996. Presently, the bridge is posted with a 0.9-metric ton (1-ton) load limit. Two alternatives were evaluated including the No-Action Alternative and the Preferred Alternative.

The proposed improvements (Preferred Alternative) will meet current design standards for off-system bridges. The proposed structure is a three-span steel girder bridge resting on steel pipe piles at approximately the same location as the existing structure. The proposed structure utilizes the truss panels from the existing bridge in an effort to preserve the historic and aesthetic qualities of the Boulder River Bridge. The cross members of the existing truss will be widened to accommodate the larger width of the new bridge structure. The original truss panels will not function as a structural component of the bridge.

An assessment of environmental impacts of these proposed actions is included in Chapter Four of this document. Major findings of the environmental assessment (EA) include:

- The Preferred Alternative will provide a safer bridge structure to accommodate existing and future traffic, bicycle and pedestrian, and stockmen (i.e. livestock movement) needs along Hubbard Lane.
- There will be temporary closure of the bridge during construction and a detour route will be established.
- Design and construction specifications will seek to minimize any water quality, wetland or other environmental impacts.
- The Preferred Alternative was determined to have an adverse effect to the historical integrity of Boulder River Bridge, a property eligible for listing in the National Register of Historic Places (NRHP). A Memorandum of Agreement (MOA) was signed to ensur certain measures to minimize the adverse effect on the Boulder River Bridge.
- The Preferred Alternative is not expected to encounter hazardous waste during project construction, however, during the placement of riprap along the banks, it is possible that the contaminated soil, located just north of the bridge, may be disturbed. In this case, the Special Provision for contaminated soils, written by the MDT, will be followed. Removal and disposal of the contaminated soils shall be done as directed by the engineer.
- No new right-of-way will be required for the Preferred Alternative.

Mitigation for the impacts described above is also described in Chapter Four of this document.

1.0 Purpose and Need for Action

1.1 Study Area Description

The project study area is located approximately 3.7 kilometers (2.3 miles) southeast of Boulder in Jefferson County on Hubbard Lane (County Road 085) 0.4 kilometers (0.248 miles) east of Montana Highway 69. The legal description of the project area is Section 3 of Township 5 North, Range 4 West, of the Montana Principal Meridian. The total project length is 0.314 kilometers (0.195 miles). Hubbard Lane is a gravel surfaced county road with a timber decked bridge, locally known as the "Red Bridge", crossing over the Boulder River. Traffic using the route consists of recreational, agricultural and local vehicular traffic. See Figure 1-1 for a Vicinity Map and Figure 1-2 for a Project Location Map. Figure 1-3 is a photograph of the Boulder River Bridge.

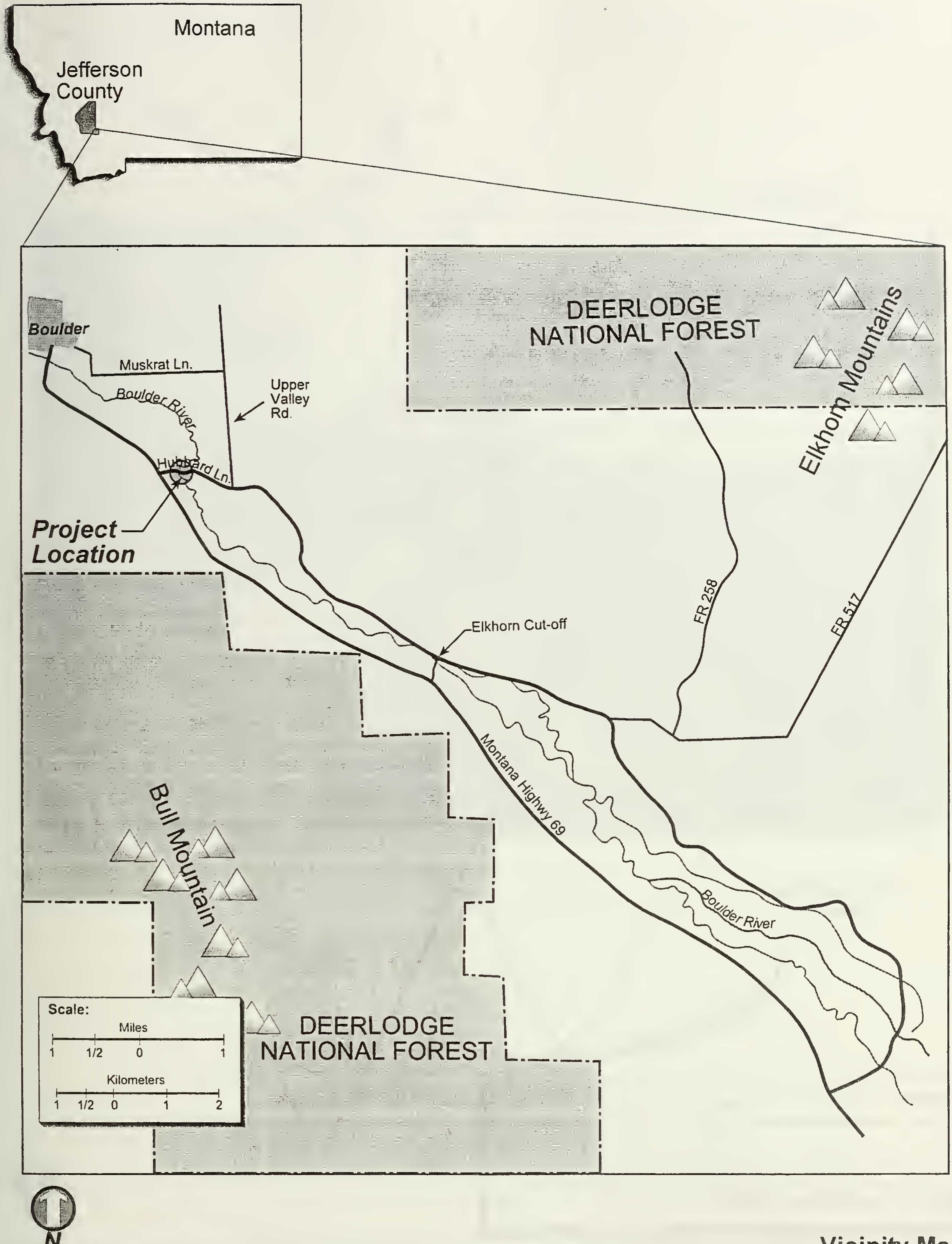
1.2 Existing Description

The existing Boulder River Bridge, locally known as the "Red Bridge", is a one-lane, single-span truss built in 1899. The structure is 23.3 meters (76 feet +/-) long between supports with a 4.7-meter (16-foot+/-) wide wooden deck. Steel caissons supporting the bridge and retaining the embankment under the roadway are rusty and have tilted, compressing the truss. The timber decking and running planks are in generally poor condition, according to the Structural Inventory form completed on February 13, 1996. The bridge is posted with a 0.9 metric ton (1-ton) load limit. The existing gravel surface approach roads are approximately 6.1 meters (20 feet) in width.

1.3 Preferred Alternative Description

The proposed project involves the replacement of the Boulder River Bridge with a new structure meeting current design standards for off-system bridges. The proposed structure is a three-span steel girder bridge resting on steel pipe piles at approximately the same location as the existing structure. The main span will be 23.3 meters (76 feet) long and will completely span the river. No piles will be located in the river channel. Two 4.6-meter (15-foot) approach spans will connect the main span to the end abutments on each side. The proposed bridge deck is a 7.6-meter (25-foot) wide concrete surface with Wyoming box beam-type steel guardrails. The proposed structure utilizes the truss panels from the existing bridge in an effort to preserve the historic and aesthetic qualities of the Boulder River Bridge. The original truss panels will not function as a structural component of the bridge.

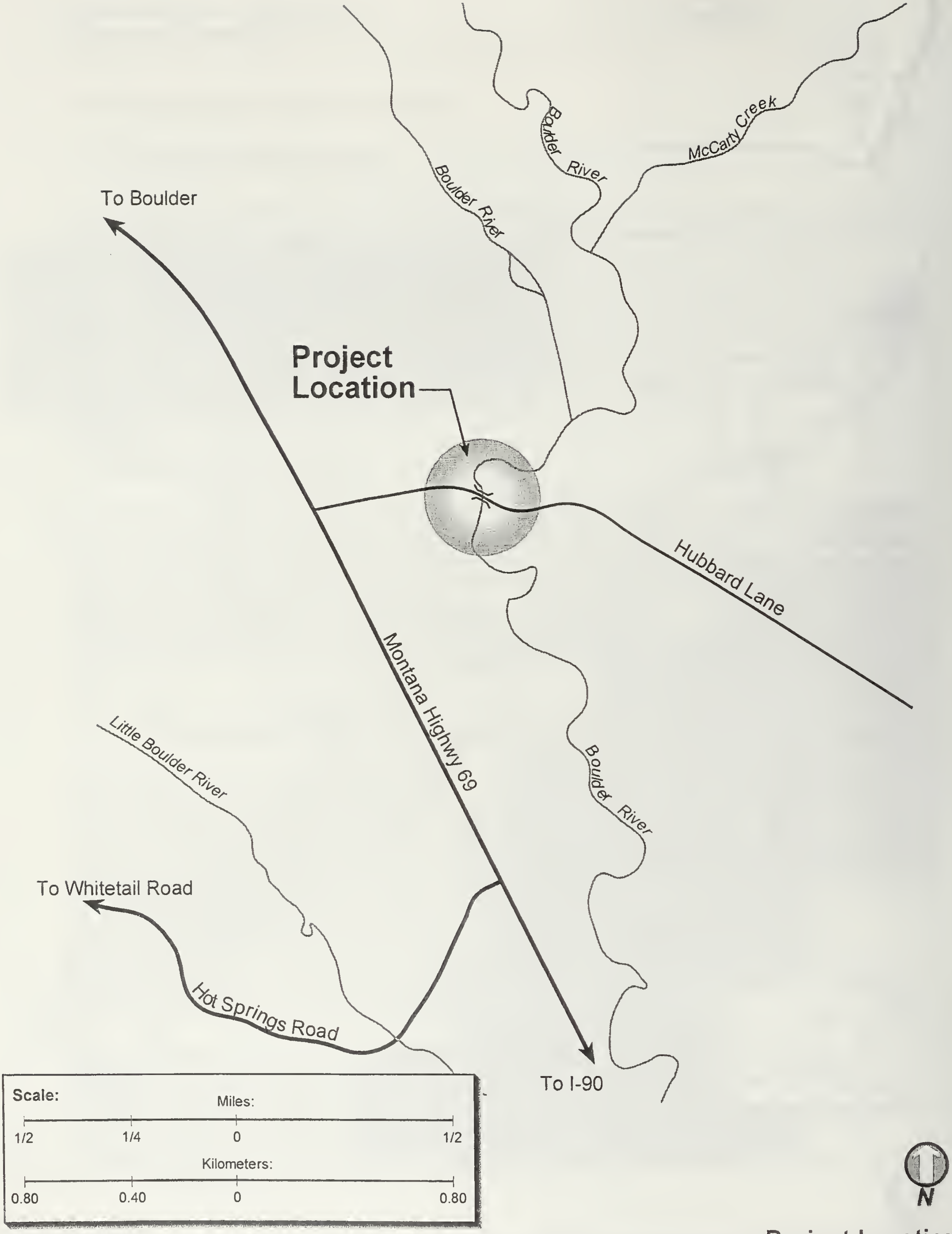
The proposed approaches will be 7.6 meters (25 feet) wide and consist of gravel surfacing. The proposed approaches will essentially follow the existing horizontal alignment. The vertical alignment will be elevated approximately 0.6 meters (2 feet) to meet the floodway requirements for the new bridge. Both horizontal and vertical alignments will be designed to meet a 50 km/h (30 mph) design speed.



Vicinity Map

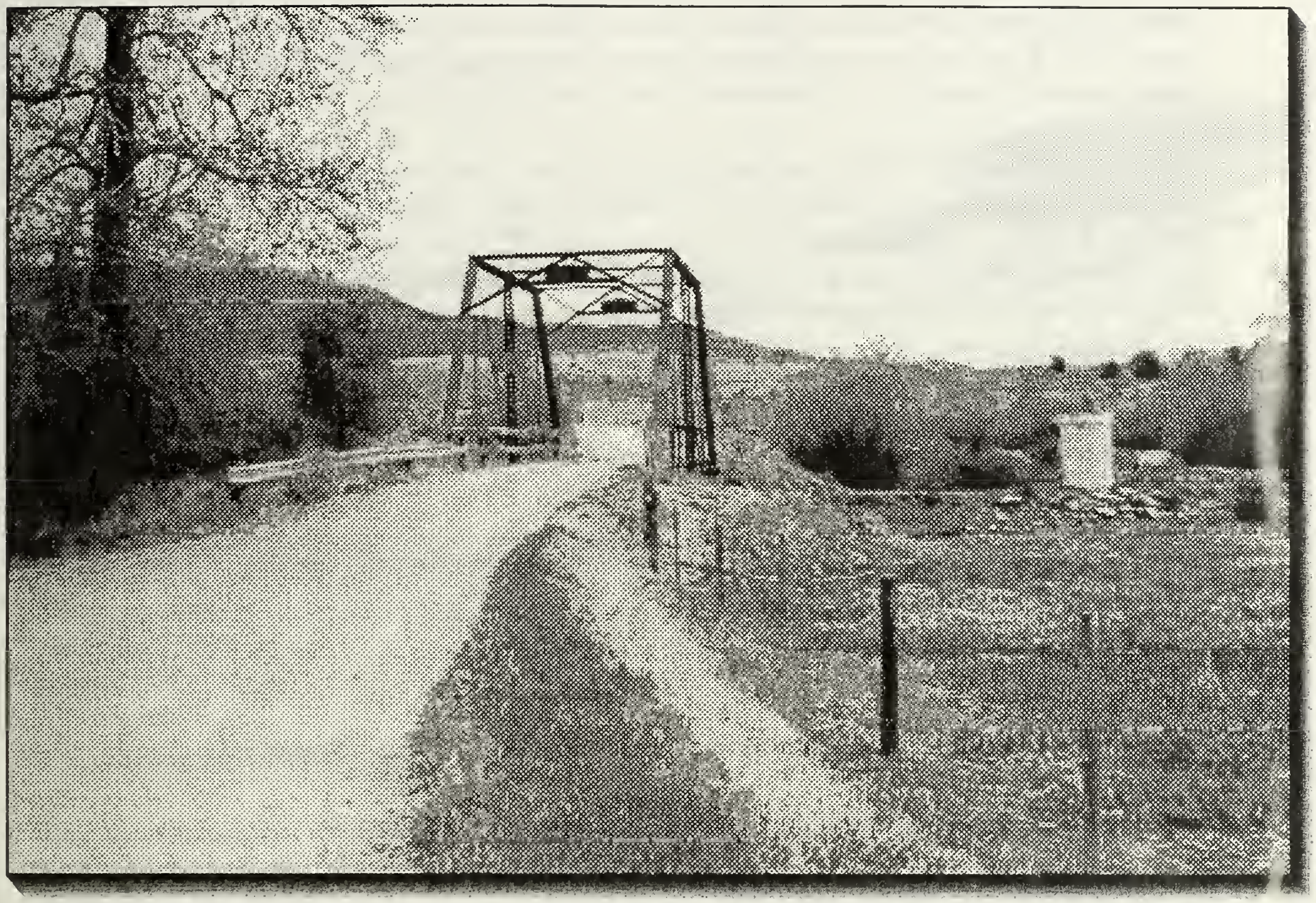
Figure 1-1

Boulder River Bridge
South of Boulder



Project Location

Figure 1-2



Boulder River Bridge
("Red Bridge" or "Hubbard Bridge")

Figure 1-3

Traffic will be detoured to an alternate route during construction. A temporary detour bridge will not be required.

The worse case scenario for a detour route would involve the need to travel from one side of the Boulder River Bridge to the other side. The shortest route from the west side of the river would be west on Hubbard Lane, then north on Montana Highway 69, east on Muskrat Lane, south on Upper Valley Road, and west on Hubbard Lane to the east side of the Boulder River. The total distance would be roughly 11 kilometers (7 miles) (see Figure 1-1).

There is an alternate route from the east side of the river to the town of Boulder, via Hubbard Lane. From Hubbard Lane, travel would be north on Upper Valley Road and west on Muskrat Lane into Boulder. This alternate route is approximately 1 kilometer (0.6 miles) longer into the town of Boulder (see Figure 1-1). Other longer routes along Hubbard Lane via the Elkhorn Cut-off to Montana Highway 69 are available.

Design features assumed as a part of the Preferred Alternative include:

- Guardrails on approaches on both sides of the bridge
- New signing

All details have been developed based on preliminary design plans and specific features may change as final design plans are developed.

1.4 Overview

The primary purpose and need for improvements to the Boulder River Bridge is to:

- Improve the overall structural integrity of the bridge.
- Improve overall safety conditions for motorists.
- Provide for county road system continuity between the town of Boulder and U.S. Forest Service access roads into Deerlodge National Forest and residential/agricultural points between.
- Reduce intermittent congestion caused by vehicles stopped or slowed to allow opposite direction traffic to cross bridge.

1.5 Traffic Volumes and Characteristics

According to the most recent October 1996 traffic studies, the Average Daily Traffic (ADT) across the bridge was 50 vehicles. In the design year 2019 (construction year +20) the ADT is expected to be 60 vehicles. Trucks account for 10 percent of the traffic. The design hourly volume (DHV) is eight vehicles per hour. The distribution shows that 55 percent of the traffic goes north over the bridge, and 45 percent of the traffic travels south.

1.6 Congestion

Because Hubbard Lane is a rural road, daily congestion is not a critical issue. Congestion might occur at the bridge at isolated times, such as when recreational users park at or near the bridge or during spring and fall cattle drives.

1.7 Local Access/Circulation

Local access on Hubbard Lane is affected by two main factors: agriculture and recreation. The road is used by local residents for travel, access, and moving livestock. The Boulder River provides fishing and swimming opportunities at and near the Boulder River Bridge. In addition, the road provides access to the Deerlodge National Forest, approximately 4.8 kilometers (3 miles) south/southeast and approximately 4.8-6.4 kilometers (3-4 miles) north east of the bridge. Hubbard Lane across the bridge is not currently used by school buses, because the bus route follows Montana Highway 69. Emergency vehicles currently use Hubbard Lane across the bridge, when necessary.

1.8 System Continuity

Hubbard Lane provides a link between Montana Highway 69 and Lower Valley Road, providing north-south travel along the Boulder River. The Boulder River Bridge is one of four bridges crossings in the Boulder River Valley. It also provides a loop access from Montana Highway 69 at a point 3.2 kilometers (2 miles) south of Boulder and then again at a point approximately 19.2 kilometers (12 miles) south of Boulder. See Figure 1-1 Vicinity Map.

1.9 Accidents/Safety

A computer search of the Highway Information System for the period 1986 through 1995 revealed two accidents involving the bridge. No injuries were reported in either accident. Accidents in the vicinity of the bridge have involved either overhead clearance or livestock on the road. Design of the bridge will conform to the MDT Bridge Design Standards, the American Association of State Highway Transportation Officials (AASHTO) Standard Specifications, and Jefferson County bridge standards in order to allow safe bi-directional passage for motorists. The existing horizontal and vertical alignments meet the criteria for a 55 km/h (35 mph) design speed.

1.10 Roadway and Bridge Deficiencies

The existing bridge is a pin connected, Pratt truss, wooden deck bridge that allows only one vehicle to pass over at a time. Steel caissons supporting the superstructure and retaining the embankment under the roadway have tilted, compressing the truss. Rust and scale covers the steel caissons and truss, and the timber decking and running planks are generally in poor condition. The bridge width is insufficient for bi-directional traffic and does not meet current safety standards.

The bridge is currently posted for 0.9-metric ton (1-ton) and was given a Sufficiency Rating of 23.4 on February 13, 1998. The Bridge Sufficiency Report is attached to the *"Nationwide" Programmatic Section 4(f) Evaluation for Historic Bridges* in Appendix A. The current Sufficiency Rating is based on a 100-point scale and is a composite of several ratings of individual bridge items that rate the structural condition and geometry of the bridge. Additionally, a bridge with low ratings on the structural condition items will be designated structurally deficient and a bridge with poor ratings for geometry items will be designated as functionally obsolete.

The Boulder River Bridge is structurally deficient and functionally obsolete.

1.11 Relationship to Transportation Planning

The proposed project is on the Statewide Transportation Improvement Plan (STIP) for the Year 1998-2000.

2.0 Alternatives Considered

Three build alternatives were developed and considered for improvements to the Boulder River Bridge. These included two replacement alternatives and one rehabilitation alternative. In addition, a No-Action Alternative was considered.

The alternatives evaluated in this environmental assessment (EA) were the No-Action Alternative and the Preferred Alternative—replacement of the bridge with reuse of the truss panels. The second replacement alternative and the rehabilitation alternative were not advanced as explained below, and were not evaluated in this EA, as described in Section 3.2 Alternatives Considered But Not Advanced.

2.1 Alternatives Advanced

The No-Action Alternative and the Preferred Alternative are described in the following subsections.

2.1.1 No-Action

With the No-Action Alternative, there will be no improvements or construction at the Boulder River Bridge on Hubbard Lane. Vehicular traffic, pedestrian and bicycle traffic, and livestock will continue to utilize the one-lane bridge in its current state. Further load restrictions and the eventual closure of the bridge are likely as the structure continues to deteriorate.

2.1.2 Preferred Alternative

For the purposes of this EA, the only build alternative that was analyzed for environmental impacts was the Preferred Alternative. The Preferred Alternative will consist of the following actions:

- Construction of a three-span steel girder bridge on steel pipe piles. The main span will be 23.3 meters (76 feet) long and will completely span the river. Two 4.6-meter (15-foot) approach spans will connect the main span to the end abutments on each side. No piles will be located in the river channel.

- Construction of a 7.6-meter (25-foot) wide concrete surface bridge deck with Wyoming box beam-type steel guardrails.

- Elevation of the vertical alignment approximately 0.6 meters (2 feet) to meet the floodway requirements.

- Construction of 7.6-meter (25-foot) wide gravel-surfaced approach roadways on the existing horizontal alignment.

- Reutilization of the original truss panels from the existing bridge. The existing cross members would be widened to accommodate the new bridge width. The truss panels will function as an aesthetic treatment , but will not be a structural component of the bridge.

2.2 Alternatives Considered But Not Advanced

The following alternatives were considered but not advanced. A general description of the alternative and the reasons it was dismissed are provided. Primary criteria used to determine whether or not an alternative should be advanced were:

- Does it meet purpose and need for which the alternatives were derived?
- Does it result in adverse environmental impacts?
- Is it economically feasible?

Total Replacement of the Bridge—This alternative included total replacement of the bridge with a precast concrete girder bridge. This alternative was not advanced because, while it meets the purpose and need for a safer structure and is economically feasible, members of the local community objected to the loss of the visually aesthetic, historic structural elements of the historic bridge.

Rehabilitation of the Bridge—A project to rehabilitate the existing bridge was let for bids in 1993. Chief components of the plan were to rehabilitate the existing trusses, construct a new substructure and bridge approach spans, stabilize the channel, and construct new approaches as needed. Widening of the bridge for bi-directional traffic was not a component of this alternative. After the bids were received, it was determined that this alternative would not meet the purpose and need to improve the safety of the bridge and it was not economically feasible.

3.0 Affected Environment, Impacts, and Mitigation Measures

3.1 Land Use, Zoning and Land Use Planning

3.1.1 Land Use and Zoning

The area in which the project is located is an unincorporated area of Jefferson County. Predominant land use types are agricultural and residential. New residential buildings have been sparsely placed in large lots of 8 hectares (20 acres). However, the county has not established building codes and does not require building permits in these areas. Urban sprawl is not approaching the project area. According to the County Planner/Zoning Administrator and the Jefferson County Comprehensive Plan (1993), there is no zoning designation for land use in this unincorporated area.

3.1.2 Impacts

The No-Action Alternative will have no impact on current land uses, zoning or future land use planning in the immediate area of the Boulder River Bridge.

The Preferred Alternative is consistent with the Jefferson County Comprehensive Plan, 1993.

3.2 Social

3.2.1 Affected Environment

The project study area is contained within Jefferson County. Jefferson County demographic and social characteristics are based on information from the 1998 U. S. Census Bureau, Population Estimate Program, which uses data collected in the 1990 U. S. Census. Information was collected on population demographics, race and ethnicity, and housing. Emergency services and school information was locally collected. Table 3-1 shows the distribution by race/ethnic origin in Jefferson County.

Table 3-1
Jefferson County Population Demographics

Race / Ethnic Origin	1990 Pop.	%	1997 Pop. Estimates	%
White	7715	97.18%	9575	96.93%
American Indian, Eskimo, or Aleut	117	1.47%	167	1.69%
Hispanic	83	1.05%	112	1.13%
Asian or Pacific Islander	15	0.19%	17	0.17%
Other race	5	0.06%	---	---
Black	4	0.05%	7	0.07%
Total Population	**7939**	**100.00%**	**9878**	**100.00%**

Source: U.S. Census Bureau, September 4, 1998

According to the U.S. Census Bureau, Population Estimate Program of 1998, Jefferson County's population estimate was 9,878 in 1997. The majority of county residents are of white race, with a total minority population of 3 percent. The county's largest racial minority is American Indian, representing 1.5 percent of the county's population in 1990. The rural, non-farm population was 7,703 in 1990, and the rural farm population was 236 during the same year (1990 U. S. Census Data).

The Population Estimate Program of the U.S. Census indicates that the population rate of natural increase was 2.7 percent for the Jefferson County from 1990 to 1998.

Statistics from the 1990 housing report of the U.S. Census show that the total housing units in Jefferson County was 3,302. Occupied housing units, per household, were 2,867 with an average of 2.68 persons for household. Roughly 81 percent of occupied houses were owned, and 19 percent were rented. Housing costs are higher in Jefferson County than in the state as a whole. The median housing cost, reported by the 1990 Census, was $63,972. The county's median gross rent was $311 compared to $447 for the state. Median household income was $31,400 for the county.

School facilities located in the town of Boulder, including the Jefferson High School and the Boulder Elementary School, are the closest school facilities in the project area. School buses do not use the Boulder River Bridge because the current bus route follows Montana Highway 69.

Most emergency services are locally provided from the Jefferson County Sheriff's Office and the Boulder Rural Volunteer Fire Department. The closest hospitals are St. Peter's Hospital located in Helena, approximately 42.8 kilometers (26.6 miles) from Boulder, and St. James Community Hospital in the town of Butte at 40.2 kilometers (25 miles) from Boulder. Currently, emergency vehicles use the Boulder River Bridge, when necessary.

3.2.2 Impacts

One impact resulting from the No-Action Alternative, may include slower travel times associated with a one-lane bridge crossing. A long term impact, as a result of the eventual closure of the bridge, would be the inconvenience to motorists due to permanent detour. There will be no permanent impacts to the Jefferson County population, households, emergency services, as a result of the Preferred Alternative. Temporary impacts to people and emergency services may occur, because bridge construction will require people to use an alternate route. Long-term impacts associated with the Preferred Alternative include enhanced and improved access to the National Forest lands.

3.2.3 Environmental Justice and Title VI

On February 11th, 1994, President Clinton issued Executive Order 12898 requiring federal agencies to incorporate Environmental Justice considerations into the National Environmental Policy Act (NEPA) planning process. The Executive Order requires that minority and low-income populations, and minority owned businesses do not receive a disproportionately high number of adverse or human health impacts as a result of Federal actions.

According to the U.S. Census Bureau data, there are no low-income or minority households within the immediate vicinity of the Boulder River Bridge.

No impacts to minority or low-income households or businesses will occur with the No-Action or the Preferred Alternative. The proposed project is in compliance with the provisions of *Title VI of the Civil Rights Act of 1964* (42 U.S.C. 2000d).

3.3 Economic

3.3.1 Affected Environment

The August 1997 Montana Labor Market Information Report indicated that in 1995, per capita personal income in Jefferson County had risen to $19,434, which represents an increase of 19 percent between 1990 and 1995. Unemployment has decreased slightly from 4.8 percent in 1987 to 4.5 percent in 1997, according to the same source.

According to the U.S. Bureau of Economic Analysis, Regional Economical System, full-time and part-time employment by major industries in Jefferson County have increased from 3,433 jobs in 1991 to 4,018 jobs in 1996, which represents an increase of 20 percent over a six-year period. In 1996, farming industries supported 281 jobs, while non-farming industries supported 3,737 jobs. Private services, a sub-category of private industries employed 817 people in 1996, which represents 22 percent of the non-farm employment population. State and local agencies employed 20 percent of the non-farm employment population in the same year.

Major private employers in Jefferson County include: Ash Grove Cement Company, Evergreen Clancy Health & Rehabilitation Center, Exchange Supper Club, Four Rivers Seed Company, Golden Sunlight Mine, Legal Tender, Montana City Store, Papa Ray's Casino & Hugo's Pizza, Pegasus Gold Corporation, and T G's Market (Montana Department of Labor and Industry, Second Quarter 1997 Unemployment Insurance Information).

Hubbard Lane contributes to local economic activities. According to the Bureau of Land Management (BLM), the Boulder River Bridge is used twice a year to transport cattle across the Boulder River to and from summer grazing range. There are four ranchers that typically use the bridge, crossing the bridge twice a year with approximately 250 head of cattle each. Movement of cattle typically occurs in May and late September to early October. Recently, ranchers have been using Montana Highway 69 to drive their cattle, utilizing the Boulder River Bridge less.

3.3.2 Impacts

The No-Action Alternative will have a minor economic impact on local businesses and ranchers. The eventual closure of the bridge, due to structural deterioration, may force local businesses and ranchers to use alternate routes for transportation of goods and movement of cattle. As described in Section 1.3, the alternate routes would increase the mileage by 11 to 12 kilometers (7 to 8 miles) and time that it takes to reach the town of Boulder and destinations to the south.

The Preferred Alternative will have a positive economic impact on local businesses and ranchers that use the bridge. Construction of the new bridge will provide a wider and safer bridge structure, and will maintain the crossing on Hubbard Lane.

3.4 Pedestrians and Bicyclists

3.4.1 Affected Environment

The Boulder River Bridge is a popular public swimming/fishing hole. Public access routes, extending down the banks to the river, will be maintained for these uses. Area recreation users park on the shoulders of the road and access the river near the bridge. Pedestrians use the bridge to cross the river, but the 4.7-meter (16-foot) bridge width does not allow safe passage between vehicles and pedestrians or bicyclists. Additionally, the existing roadway width does not provide adequate space for parking. This creates an increased potential for vehicle-pedestrian and vehicle-vehicle conflicts.

3.4.2 Impacts

The No-Action Alternative will result in the following impacts to pedestrians and bicyclists:

- Continued safety hazards to vehicles and pedestrians

The Preferred Alternative will have the following impacts to pedestrians and bicyclists:

- The proposed structure will be approximately 2.9 meters (10 feet) wider than the existing bridge. This will result in safer accommodation of pedestrians and bicyclists.

- The proposed structure will be approximately 0.6 meters (2 feet) higher than the existing bridge.

- There may be minor temporary impacts the existing public access routes during construction.

3.4.3 Mitigation

No mitigation is proposed for the No-Action Alternative.

The following mitigation measures will be included in the Preferred Alternative:

- Shoulders and side-slopes will be designed to allow parking on the county road near the bridge.

- Public access routes will be maintained to the river. Guardrail and fencing will be designed so as not to impede public access.

3.5 Right-of-Way

3.5.1 Affected Environment

The existing right-of-way (ROW) measures 12.2 meters (40 feet), in each direction, from the centerline of the present traveled way, including acquisitions for a 1993 bridge rehabilitation project that did not go to contract.

3.5.2 Impacts

The No-Action Alternative will require no additional right-of-way.

The Preferred Alternative will require no additional ROW. Approximately 0.63 hectares (1.56 acres) of construction permits and easements will be required for placement of riprap and for construction staging areas. Construction permit areas will revert back to the original landowner following construction.

3.6 Parks and Recreation

3.6.1 Affected Environment

The Boulder River provides various recreation opportunities, including swimming and fishing. The Boulder River Bridge provides access to a popular swimming/fishing hole located immediately upstream of the bridge. Jefferson County has not designated, nor has made future plans to zone, the area as recreational.

There are no public parks in the project study area, however, the existing bridge provides access to the Deerlodge National Forest, Helena National Forest, and the Elkhorn Wildlife Management Unit (WMU). The Deerlodge National Forest is located on either side of the Boulder River Valley and adjoins the Helena National Forest to the north. The Elkhorn WMU is located within the Helena National Forest. Access to the Deerlodge National Forest is located approximately 4.8 kilometers (3 miles) south/southeast of the project study area. Both National Forests offer a number of recreational opportunities, including hiking, camping, hunting, fishing, and wildlife viewing.

Because there are no publicly owned parks or recreation areas adjacent to the Boulder River Bridge, there are no park and recreation properties that need to be evaluated under *Section 4(f)* of the Department of Transportation Act. In addition, the Montana Department of Fish, Wildlife and Parks (MDFW&P) was contacted and confirmed that there are no properties purchased with funds from the Land and Water Conservation Fund Act adjacent to the Boulder River Bridge. Therefore, no properties need to be evaluated under *Section 6(f)* of that Act.

3.6.2 Impacts

No impacts will result to the swimming and fishing hole near the bridge, as result of the No-Action Alternative. The eventual closure of the bridge due to structural deterioration will force recreational users to use alternate routes to access National Forest lands.

The Preferred Alternative will not result in impacts to any publicly owned park, recreational area, or wildlife and waterfowl refuge lands. The Preferred Alternative will not result in impacts to any property purchased with Land and Water Conservation Funds. Therefore, there are no impacts to parks and recreation properties under *Section 4(f)* of the U.S. Department of Transportation Act or *Section 6(f)* of the National Land and Water Conservation Fund Act.

The Preferred Alternative is not expected to have any long-term impacts to the swimming/fishing hole near the bridge. Access to these areas may be restricted during construction. The Preferred Alternative will maintain current access routes to National Forest lands in the area.

3.7 Air Quality

3.7.1 Affected Environment

This project is located in an "unclassifiable" attainment area of Montana for air quality under 40 CFR 81.327, as amended. As such, this proposed project is not covered under the U.S. Environmental Protection Agency's Final Rule of November 24, 1993 on Air Quality conformity. Therefore, this proposed project complies with Section 176(c) of the *Clean Air Act* as amended (42 U.S.C. 7521(a)).

3.7.2 Impacts

There will be no impacts to air quality with the No-Action Alternative.

There are no long term impacts associated with air quality, as a result of the Preferred Alternative. The Preferred Alternative will have minimal short-term impacts due to anticipated construction activities near the project area. Temporary impacts include short-term increased emissions as a result of construction-related traffic and increases in particulate emissions from ground disturbances.

3.7.3 Mitigation

Short-term mitigation for construction impacts could include dust palliatives such as water or magnesium chloride, covered trucks that haul soil and other materials, stabilized and covered soil stockpile areas, and revegetation of exposed areas.

3.8 Noise

3.8.1 Affected Environment

There are no sensitive receptors located within the project study area. Ambient noise levels for the project area will not be altered. The proposed project is in compliance with the provisions of MDT's Noise Policy, as amended.

3.8.2 Impacts

There will be no noise impacts associated with the No-Action or Preferred Alternative. Construction-related noise impacts are discussed in Section 4.17.

3.9 Water Resources/Quality

3.9.1 Affected Environment

The study area falls within the Missouri River Basin, located to the east of the continental divide in western Montana, and includes the Missouri River and its headwaters.

The major water feature within the project study area is the Boulder River. The Boulder River, with its headwaters in the Boulder Mountains, flows south through the Boulder Valley and into the Jefferson River, a tributary to the Missouri River. The Boulder River intersects Hubbard Lane approximately 3 kilometers (1.9 miles) to the southeast of the town of Boulder. McCarty Creek and Little Boulder River, tributaries of the Boulder River, also fall within the vicinity. Water resources in the project are shown in Figure 1-2 Project Location Map.

The Montana Department of Environmental Quality (MDEQ) has designated the Boulder River as a Class B-1 waterway, or a multi-use cold water fishery. A Class B-1 waterway is suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreational activities; cold water fishery purposes; and agricultural and industrial uses. Water from the Boulder River, within the project area, is primarily used for fishery purposes and agricultural uses, including irrigation and livestock watering.

3.9.2 Impacts

The No-Action Alternative will have no short-term or long-term impacts on existing water quality conditions.

The Preferred Alternative will have minimal short-term impacts due to anticipated construction activities in and around flowing water. These activities include placement of riprap and construction of bridge piers and abutments. Because the proposed structure spans the entire river channel at normal flows, placement of piers in the water will not be required. The Preferred Alternative will also have minimal long-term impacts because of the increased area of impervious surface, as a result of the wider bridge deck. However, this will not result in a significant increase in surface runoff.

3.9.3 Mitigation

Throughout the construction phase, procedures described in the *MDT Highway Construction Standard Erosion Control Plan* will be used. Some of these acceptable measures include:

Long Term Mitigation

- An Erosion Control Plan will be submitted to the Montana Department of Environmental Quality (MDEQ's) Water Quality Division in compliance with their Montana Pollutant Discharge Elimination System Regulations (ARM 16.20.1314) for the proposed project. Best Management Practices (BMPs) will be included in the design of this plan using the guidelines as established in MDT's Highway Construction Erosion Control Work Plan. The objective is to minimize erosion of disturbed areas during and following construction of the proposed project.

- Vegetated drainage swales will be used to slow stormwater runoff and allow for the settling of suspended solids and contaminants before discharging to surface waters.

- In accordance with 7-22-2152, and 60-2-208 M.C.A., MDT will reestablish a permanent desirable vegetation community along all areas disturbed by the proposed construction. A set of revegetation guidelines will be developed by MDT that must be followed by the contractor. These specifications will include instructions on seeding methods, seeding dates, types and amounts of mulch and fertilizer, along with the seed mix components. Seed mixes include a variety of species to assure that the areas disturbed by construction are immediately stabilized by vegetative cover. The Seeding Special Provisions developed for this proposed project will be forwarded to the Jefferson County Weed Board for approval.

Short Term/Construction Mitigation

- Implement erosion control measures, such as temporary and permanent seeding and mulching, within a reasonable time following disruption of the soil.

- Implement sedimentation control methods, such as check dams, silt fences, and sedimentation basins along drainage routes and adjacent to water features.

- Use temporary and permanent retention ponds to optimize settling time for the sediment-laden run-off before entering a water feature.

- Use settling ponds for the effluent of the dewatering operations.

- Minimize vegetation disturbance and rapidly revegetate areas of disturbance.

- Restrict movements of construction vehicles on unpaved areas where possible.

3.10 Permits Required

The following permits will be required for the Preferred Alternative and will be obtained prior to and disturbance:

• Montana Department of Fish Wildlife and Parks (MDFWP)	*124 Stream Preservation Act (SPA) Permit* will be required in compliance with the provisions both for Water Quality under 75-5-401(2) M.C.A. for *Section 3A* authorizations, and Stream Protection under 87-5-501 through 509 M.C.A., inclusive.
• Jefferson County	*Floodplain Development Permit* will be required.
• U.S. Corps of Engineers (COE)	*Section 404 Permit* will be required under the Clean Water Act (33 U.S.C. 1251-1376). The COE will be notified that this project qualifies for a "Nationwide" 404 Permit under the provisions of 33 CFR 330.
• Montana Department of Environmental Quality (MDEQ)	*Section 402 / Montana Pollutant Discharge Elimination System (MPDES) Permit* will be required from the MDEQ's Permitting and Compliance Division. A stormwater and erosion control plan will be developed for the project

3.11 Wetlands/Vegetation

3.11.1 Affected Environment

3.11.1.1 Wetlands

On May 12, 1998, a wetland delineation was performed by MDT's consultant. Project area wetlands were delineated in accordance with the Army Corps of Engineers (COE) 1987 Wetland Delineation Manual. Only three wetlands, totaling 0.02 hectares (0.054 acres), were found within the 61-meter (200-feet) corridor width of the project area. According to MDT's Wetland Field Evaluation Form, the wetlands received low to moderate ratings (Class IV wetlands with functional ratings between 22 and 29 percent). These ratings were warranted due to the impaired wetland's natural hydrology, grazing impacts, and the infrequent presence of threatened or endangered species.

3.11.1.2 Vegetation

Dominant emergent species include obligate baltic rush and heavily-grazed sedge. Redtop bentgrass and meadow foxtail are found within the margins of the wetter portions of the wetlands. Wetland shrubs, such as willows or alders, do not exist in the wetland delineation area. Two widely spaced black cottonwood trees are on the northwest side of the bridge. Upland plant species, such as brome, common dandelion, Timothygrass, lupine, wheatgrass and mustard species, woods rose, and thistles, were found in the delineation area.

3.11.2 Impacts

The No-Action Alternative will result in no impacts to wetlands or other vegetation.

The Preferred Alternative will have no permanent impacts to wetlands, as a result of the new bridge abutments or minor improvements to the existing alignment. Construction-related temporary impacts of 0.01 hectares (0.03 acres) of wetlands will occur due to various staging activities during construction. Temporary wetland impacts, due to construction, are necessary to facilitate the replacement of the Boulder River Bridge and they will be mitigated (i.e. revegetated) back to their original state by the contractor upon completion of the construction.

A Special Provision will be included in construction specifications to avoid the removal of two cottonwood trees located near the bridge. (SPA 124 Permit dated February 2, 1999.)

3.11.3 Practicable Alternatives

Based upon the above considerations, there are no practicable alternatives to avoid wetland impacts. The proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

3.11.4 Mitigation

Mitigation for temporary construction impacts include:

- Minimize vegetation removal.
- Revegetate all exposed areas to MDT standards to reduce erosion and sedimentation.
- Revegetate areas with desirable ground covers to inhibit invasion of noxious weeds and for aesthetic purposes.
- Coordinate weed control, seeding and fertilization with the Jefferson County Weed Control Authority and MDT.
- Flag or fence wetland areas during construction to avoid unnecessary disturbance due to construction activities.

- Provide bank stabilization and erosion control to meet standards defined by the MDT Highway Construction Standard Erosion Control Plan

- Ensure contractor adherence to MDT's Best Management Practices (BMPs) relating to water quality and the handling of fuels and other contaminants common to staging areas.

- Ensure compliance with provisions in SPA 124 Permit to avoid removal of the cottonwood trees.

3.12 Wildlife/Threatened and Endangered Species

Information pertaining to endangered, threatened, sensitive and rare wildlife, fish, herptiles and vegetative species was sought from the U.S. Fish and Wildlife Service (USFWS), the Montana Natural Heritage Program (MNHP), and MDT's District Biologist. A literature review was also conducted and the Montana Rivers Information System (MRIS, 1997) was queried to gather aquatic resource data for that reach of Boulder River bisected by the project. During a field reconnaissance, particular attention was paid to signs of tracks, scat, and nest structures within and near the project area.

3.12.1 Affected Environment

Wildlife

Many of the species occurring around the project area are the same found throughout much of the Northern Plains. These typically include such user groups as: small, rodent-like mammals; small fur bearers such as muskrat, raccoon, river beaver, and the occasional mink and bobcat; deer and pronghorn antelope populations both within or near the floodplain as well as outlying areas; and a number of herptiles.

Also, seasonally visible are a large variety of birds with over 120 species compiled by the Montana Bird Distribution Committee between 1991-1995.

Threatened and/or Endangered Species

Under the Endangered Species Act of 1973 (as amended, 1988), the term "endangered species" is defined as a species in danger of extinction throughout all or a significant portion of its range; and a "threatened species" are those likely to become endangered species within the foreseeable future throughout all or a significant portion of their range. Migratory birds, including raptors, are protected in accordance with the Migratory Bird Treaty Act (16 USC 701-718h).

Of the 13 species in Montana presently classified by the USFWS as either threatened or endangered, only four are known or suspected to occur within Jefferson County. These include: the threatened bald eagle, the endangered peregrine falcon, the threatened gray wolf and the threatened Ute ladies'-tress orchid.

One former species not considered is that of (threatened) grizzly bears which freely roamed this portion of Northern Plains into the early 19th Century. Grizzly bears are no longer expected to occur within Jefferson County.

Those individuals proposed for listing in Montana at this time include the Canada lynx and the St. Mary-Belly River population of bull trout, neither of which have been observed in and around the project area. The project area is not in the travel range of bull trout, due to the fact that it is on the east side of the Continental Divide.

- *Bald Eagle* - Bald eagles (*Haliaeetus leucocephalus*) retain a migrant status on this segment of the Boulder River, along with a minor wintering presence. A search by MNHP and review of the Montana Department of Fish, Wildlife and Parks (MDFWP) 1997 listing of bald eagle nesting territories of record indicate no active locations within many miles of the project. It is possible with an increasing bald eagle population that a pair may choose at a future time to repeatedly forage or begin nesting activity along a portion of the Boulder River nearer this project. Until such time, however, their presence within the immediate project area is considered infrequent to incidental.

- *Peregrine Falcon* - Peregrine falcons (*Falco perigrinus)* may forever retain a migrant status along this portion of the Boulder River corridor due to the general absence of suitable wetland habitats. Foraging areas utilized by these transient individuals primarily include wetlands that attract lesser prey (bird) species through their diversity of habitats. Considering that virtually all project-related wetlands afford neither this diversity nor a functional size, it is improbable that migrating falcons seek them out. A query of various agency biologists produced no knowledge of peregrine falcon use within the project area, nor concern for the proposed action as relates to this species.

- *Gray Wolf* - Once successful in hunting and scavenging among the remains of Plains ungulates, the recorded presence of gray wolf (*Canis lupus)* today in the general area is negligible. It remains extremely unlikely that this reclusive species will ever reoccupy this section of the Boulder River. MDFWP and USFWS personnel are not currently aware of any wolf presence or activity within the general project area, nor do they foresee any conflict with the proposed action.

- *Ute ladies'-tress orchid* – This orchid (*Spiranthes diluvialis)* is a perennial herb with usually one stem, 20-50 cm (8-20 inches) high that is known to occur in creek beds or riverine habitat. The orchid flowers in August-early September. There has only been two observed occurrences in Jefferson County, and both many miles from the project area.

A recent 16-kilometer (10-mile) radius search by MNHP reveals that the few species listed as Sensitive for this general area are located a relatively long distance from the project area. These include: a purestrain population of Yellowstone cutthroat trout and the sensitive musk-root plant near Basin, Montana; one collected specimen of fringed myotis (bat) approximately 14.5 kilometers (9 miles) northeast of the project; and a pure-strain population of westslope cutthroat trout existing nearly 11.3 kilometers (7 miles) north of the bridge site. Based on the May 1998 field survey and MNHP information, no viable habitats for any of these mentioned species, or the several others presently listed for Jefferson County by MDFWP, are believed to occur in the immediate project area.

Aquatics/Fisheries

A search of the Montana Rivers Information System (MRIS, 1997) reports brown trout as the only common game fish along with more uncommon species such as brook and rainbow trout, longnose dace, longnose and white suckers, mountain whitefish and occasional mottled sculpins.

With regard to the river's game species, brown trout readily spawn within the main channel whereas rainbow trout more commonly rely upon the Boulder River's tributaries for such habitat. Currently, there are no timing restrictions mandated to protect the spawning brown trout.

3.12.2 Impacts

Wildlife

The No-Action Alternative will have no impact on wildlife.

The Preferred Alternative will likely result in the short-term displacement only of various bird species during the period of construction as well as localized, but recoverable, losses of small rodents and occasional herptiles occupying the grassy areas and wet ditches within the project area.

Threatened and/or Endangered Species

The No-Action Alternative will have no effect on threatened or endangered species.

Communications with the U.S. Fish and Wildlife Service (USFWS), the Montana Natural Heritage Program (MNHP), and the Montana Department of Fish, Wildlife, and Parks (MDFWP), presently indicate that there are no resident populations of either threatened or endangered species that will conflict with the proposed action.

Based on the above information, it is determined that implementation of the proposed action will have no effect on the Bald Eagle, Peregrine Falcon, Gray Wolf or Ute Ladies'-tress Orchid, nor on any Sensitive Species of Concern within Montana.

Aquatics/Fisheries

The No-Action Alternative will have no effect on aquatic resources or fisheries.

For the Preferred Alternative, removal of the free-span structure and its subsequent replacement of similar span will likely preclude many of the concerns associated with the construction of instream footings and pierings. Assuming application of MDT's Best Management Practices (BMPs), no water quality impacts are expected.

3.12.3 Mitigation

Fuels and other toxic substances common to staging and construction areas should be managed to avoid spills into the waterway or into wetlands

3.13 Floodplains

3.13.1 Affected Environment

Figure 3-1 shows the existing 100-year floodplains within the project area for Boulder River, Little Boulder River, and McCarthy Creek. This information is based upon Flood Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA).

The project is located within the boundaries of a delineated floodplain for the Boulder River under the FEMA criteria. The natural and beneficial floodplain values for the Boulder River include the natural moderation of floods, outdoor recreation, natural beauty, wildlife and vegetation, and agriculture.

3.13.2 Impacts

Executive Order #11988 (E.O. #11988) and FHWA's floodplain regulations (23 CFR 650, Subpart A) requires an evaluation of the proposed action's encroachment on the base floodplain.

The No-Action Alternative will result in no new encroachment on the 100-year floodplain.

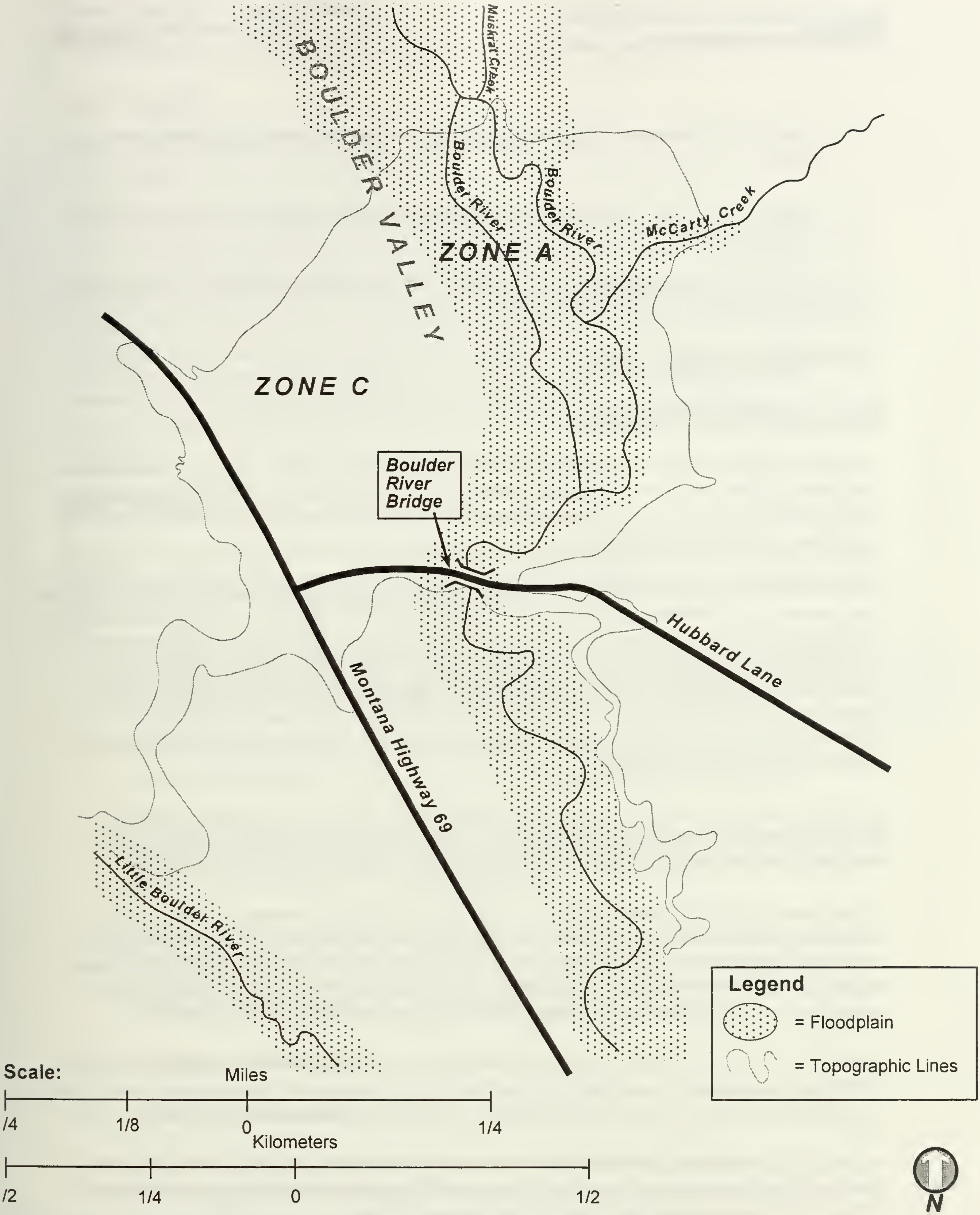
With the Preferred Alternative, the bridge is a transverse encroachment on the floodplain with minor impacts. Jefferson County administers this floodplain for FEMA, and a Floodplain Development Permit will be required. This project will not promote or encourage development within this delineated floodplain, or increase flood liability hazards as a result of its construction. The proposed project is therefore considered to be in compliance with E.O. #11988.

3.13.3 Mitigation

The following mitigation measures will be implemented as part of the Preferred Alternative:

- Construction of the bridge to match the opening of the existing structure and allow passage of the 100-year storm.

- Construction of the piers to align with the flow such that the obstruction of flow is minimized.



Source: Based on Boulder East Quad Topographic Map (Provisional Edition, 1985) and Flood Insurance Rate Map (FIRM) (June 17, 1986)

FEMA 100-Year Floodplain

Figure 3-1

- Installation of revetment, such as riprap, to protect the abutment and embankments from scour.

- Construction of the foundation and structure to withstand the effects of scour during the 500-year storm.

Construction of the roadway approaches above the 100-year waterway surface to provide access for emergency vehicles during flood events.

3.14 Cultural Resources

3.14.1 Affected Environment

A cultural resource report was prepared by MDT on November 2, 1981. A field reconnaissance conducted for the report covered approximately 15 meters (50 feet) on each side of the bridge and 300 meters (110 feet) on the approach roads each end of the bridge. No archeological sites were found within the project area.

The Montana State Historic Preservation Office (SHPO) concurred that the Boulder River Bridge (also known as the "Red Bridge" and the "Hubbard Bridge") is eligible for the National Register of Historic Places (NRHP) on June 9, 1981. The bridge was originally built in 1899 to serve ranchers and miners in the Boulder to Elkhorn regions. The bridge, built by Gillette-Herzog Manufacturing Company, is timber plank decking supported by steel I-beams. Parts of the bridge are in poor condition and some of the tension members are loose. The bridge is representative of the steel pin-connected truss types used for bridges spanning 30-46 meter (100-150 foot) at the turn of the Century.

In 1996, as a result of this proposed project, coordination efforts were organized by MDT, Jefferson County Commissioners and their appointed Boulder River Bridge Committee to determine the best method to preserve the integrity of the historic Boulder River Bridge.

A Memorandum of Agreement (MOA) was signed by FHWA, the Montana SHPO, and the Advisory Council on Historic Preservation, and concurred with by MDT in 1997. The MOA states that the Boulder River Bridge replacement project would have an (adverse) effect on the bridge and lists several mitigation measures to be carried out. With the signing of the MOA, compliance with Section 106 of the National Historic Preservation Act was completed.

Federally funded actions affecting historic bridges that are on, or considered as eligible for the NRHP also must comply with *Section 4(f)* of the U.S. Department of Transportation Act of 1966, as amended (49 U.S.C. 303). This compliance is discussed further under Section 3.19.

Appendix A contains the *"Nationwide" Programmatic Section 4(f) Evaluation for Historic Bridges*. Attached to Appendix A is the Bridge Sufficiency Report, MOA, Determination of Effect, SHPO concurrence letter, and Bridge Inventory Forms.

3.14.2 Impacts

The No-Action Alternative will have no impact to the historical significance of the Boulder River Bridge.

The Montana SHPO concurred with the determination that Preferred Alternative will have an adverse effect on the NRHP-eligible Boulder River Bridge, by signing the Memorandum of Agreement (MOA) attached in Appendix A *"Nationwide" Programmatic Section 4(f) Evaluation for Historic Bridges*. This determination is based on NRHP standards for "site significance". The bridge was deemed significant because of the integrity of its location, design and setting. The integrity of the materials, workmanship and association were deemed good. The bridge is associated with a broad pattern of historic events and embodies distinctive characteristics. The bridge was determined to yield important information in history. The effect of the replacement project will be to remove much of the historic fabric and alter the appearance of the bridge.

3.14.3 Mitigation

The MOA was signed to ensure certain measures to minimize the adverse effect on the Boulder River Bridge. Mitigation to preserve the historical integrity of the Boulder River Bridge will be carried out by the FHWA in accordance with the MOA:

- The Preferred Alternative will preserve a portion of the historic fabric of the Boulder River Bridge, while providing a new bridge structure. The Preferred Alternative will incorporate elements that are stylistically compatible with the original bridge.

- MDT will conduct and submit Level II recordation of the structure to the HAER standards within 60 days of the initiation of construction activities at the site.

- MDT will prepare and install a historical marker near the bridge, describing the historical significance of the Boulder River Bridge and efforts made by local citizens and Jefferson County to retain a portion of the original bridge.

- If a dispute arises regarding the implementation of the MOA, FHWA shall consult with the objecting party to resolve the dispute. If any consulting party determines that the dispute cannot be resolved, FHWA shall request the further comments of the Advisory Council on Historic Preservation pursuant to the Council's regulations.

3.15 Hazardous Materials

3.15.1 Affected Environment

Personnel from the Montana Department of Transportation's Hazardous Waste Bureau conducted an investigation and requested information regarding the presence of hazardous materials in the project area. One site located within the project area was found to be contaminated with hazardous materials (See Figure 3-2).

According to the findings, mine tailings containing elevated levels of heavy metals exist in the east bank of the Boulder River approximately 4.5 to 15 meters (15 to 50 feet) from the north side of the bridge. A Special Provision will be included in the project construction specifications to address the removal of this contaminated material if disturbed during construction.

3.15.2 Impacts

There will be no impacts to hazardous material sites with the No-Action Alternative.

The Preferred Alternative is not expected to impact the hazardous material site during construction of the bridge. However, placement of riprap along the banks may disturb the contaminated soil site.

3.15.3 Mitigation

A Special Provision will be included in the construction contract to address hazardous materials on the site.

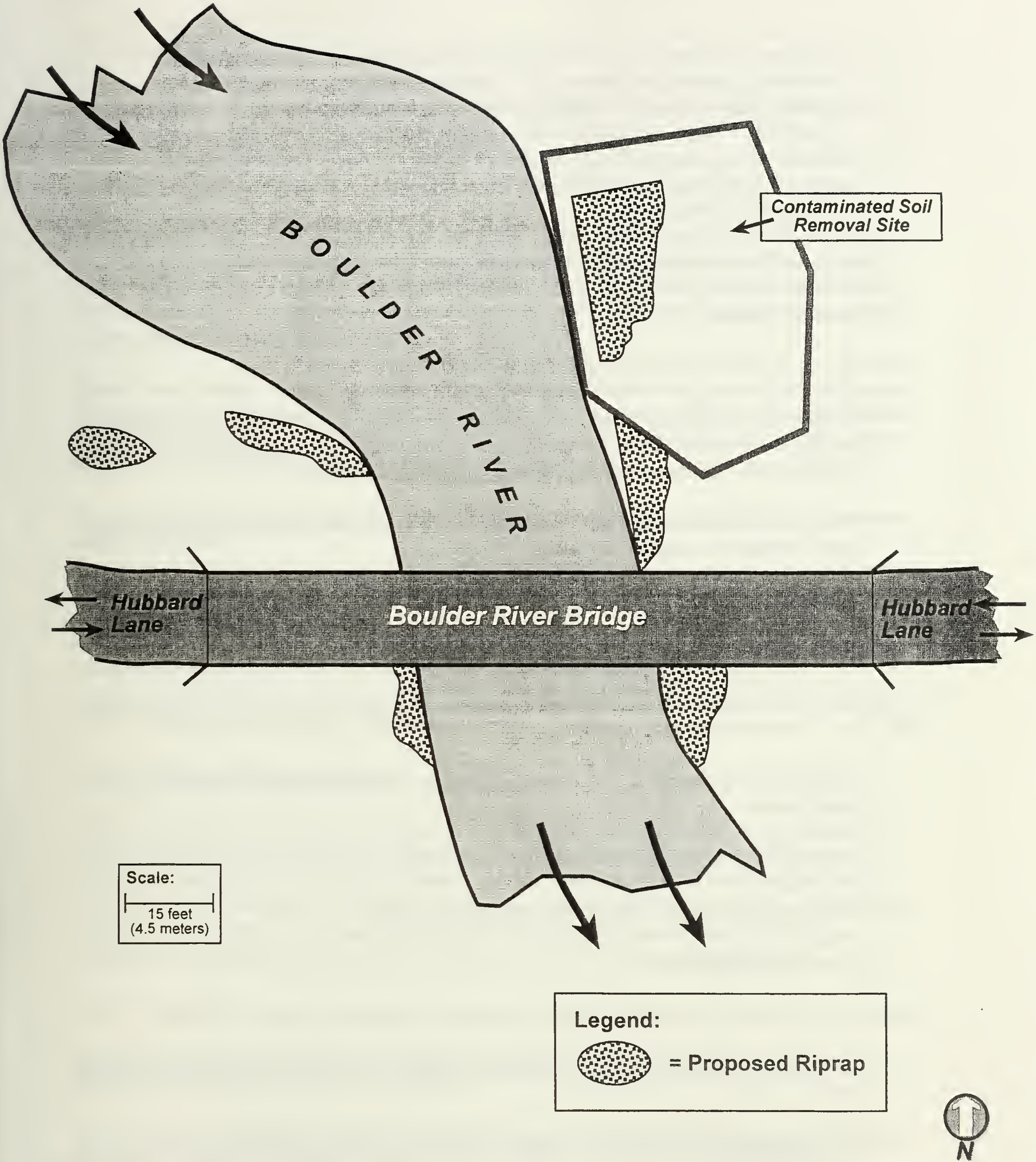
The boundary of the contaminated material will be clearly marked before construction begins. The contractor will be instructed to disturb this area only as necessary for the placement of riprap along the riverbank. Any material removed from this area will be properly tested, handled, and disposed of according to MDT and Montana Department of Environmental Quality (MDEQ) procedures and regulations. If necessary, the hazardous material will be disposed of at a licensed treatment, storage, and disposal facility.

3.16 Visual

3.16.1 Affected Environment

The surrounding landscape of Hubbard Lane, approximately 3.7 kilometers (2.3 miles) southeast of Boulder, contains relatively broad vistas with gentle rolling hills and views to the Elkhorn Mountains and Bull Mountain in the background. Travelers heading in either direction along Hubbard Lane are exposed to natural pastoral and agricultural fields in the distance. The historic Boulder River Bridge crosses Boulder River at a location with an abundance of riparian vegetation, typical of the river corridor and associated floodplain.

Foreground landscape units are those that are immediately visible from the project study area. They are created and influenced by such factors as the type of adjacent land use, the width of the roadway, the roadway elements, and the character of the adjacent vegetation. Combining these factors provides the traveler with a general character of the views along the roadway and project corridor. Landscape units observed within the study corridor are as follows:



Source: MDT Hazardous Waste Bureau

Hazardous Material Site

Boulder River Bridge
South of Boulder

Figure 3-2

- Agricultural. The majority of the adjacent land use is pasture/agricultural fields. Occasionally, farming equipment and out-buildings can be seen directly from the roadway. This landscape unit has generally open views with little or no tree canopy.

- Riparian. Along the Boulder River, mature cottonwood trees and other riparian vegetation associated with the Boulder River floodplain provide a break on the otherwise open pastoral landscape.

- Hubbard Lane contains roadway elements typical to this rural setting such as: grass-lined ditches, varied styles of right-of-way or property fencing, no curb and gutter, and minimal signage.

The following views of special interest or significance occur in the study area:

- The historic Boulder River Bridge, as shown in a photograph in Figure 1-3, provides a unique focal point and creates a special character to this country road setting. This bridge dates to 1899 and has special significance to the local residents.

- Views to the Elkhorn and Bull mountains provide a dominant background to frame the visual setting of the project corridor.

3.16.2 Impacts

There will be no visual impacts associated with the No-Action Alternative.

Visual impacts associated with the Preferred Alternative will be both short-term as well as long-term. Short-term visual impacts include:

- Construction equipment and excavated material associated with construction in the staging areas.

- Dust and debris associated with construction activity.

- Traffic congestion associated with construction activity.

- Removal of vegetation.

Long-term visual impacts associated with the Preferred Alternative include:

- An expanded bridge deck and pavement width from 4.7 meters (16 feet) to 7.6 meters (25 feet).

- Fill slopes which will change the existing landform immediately adjacent to the roadway edge.

- Loss of vegetation.
- Addition of Wyoming box beam-type steel guardrails. (note: The Wyoming guardrails were selected as a more aesthetic choice to the standard "w" beam guardrails)
- Additional new signing.

The expanded bridge deck and pavement width will increase the motorist's foreground view of the roadway considerably from that provided by the existing road. However, the improved safety associated with wider shoulders and standard lane widths should enhance the motorist's driving experience. The wider shoulders also provide more opportunities for motorists to pull-off and enjoy the surrounding views.

Minor visual changes will occur in areas where the expanded roadway requires reconfiguration of landform and grade due to fill slopes required to raise the road elevation over the floodplain. The road elevation is proposed to be raised 0.6 meter (2 feet) which will equal approximately a 1.8-meter (6-foot) width of new fill slope (at a 3:1 slope).

The loss of vegetation will occur mainly at the river crossing as a result of bridge and approach road construction.

3.16.3 Mitigation

A Special Provision will be included in construction specifications to avoid the removal of two cottonwood trees located near the bridge. (SPA 124 Permit dated February 2, 1999.)

3.17 Prime and Unique Farmland

3.17.1 Affected Environment

Statistics show that 35 percent of lands in Jefferson County have been dedicated to farming. In recent years, land used as farms has experienced a slight decrease from 148,830 hectares (367,482 acres) in 1992 to 147,482 hectares (364,153 acres) in 1997. The average of size of farms has also decreased by 12 percent from 631 hectares (1,557 acres) in 1992 to 554 hectares (1,369 acres) in 1997. As a consequence, market value of agricultural products sold has decreased 26 percent in the same period of time (1997 U.S. Census of Agriculture).

3.17.2 Impacts

With the No-Action Alternative, no impacts will occur to Prime and Unique farmlands or farmlands of statewide or local importance.

Because no new right-of-way will be required as part of the Preferred Alternative, no impacts will occur to Prime and Unique farmlands or farmlands of statewide or local importance.

Therefore, the Preferred Alternative is in accordance with the Farmland Protection Policy Act (7 U.S.C., et seq.), and no coordination with the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) is necessary.

3.18 Construction

3.18.1 Impacts

No construction impacts will occur with the No-Action Alternative.

The following construction impacts will be associated with the Preferred Alternative:

- Air Quality – Excavation, grading, and fill activities may increase local fugitive dust emissions.
- Noise – The operation of construction equipment may create undesirable noise conditions, however, there are no noise receptors (residences, businesses) in the immediate vicinity of the project. Construction noise may have a short-term impact on wildlife in the area.
- Water Quality – Stormwater runoff from areas of exposed soils may cause erosion and sedimentation problems in the river. Construction in and around the river channel creates the potential for release of contaminants such as concrete or petroleum products into the river.
- Visual – Stockpile and storage of construction equipment and materials may cause short-term visual impacts to residents and passers-by.
- Traffic – Traffic patterns will be disrupted while the bridge is reconstructed. The county road will be closed during construction and traffic will be detoured to an alternate route.
- Access – Individual residential or business accesses will not be impacted by construction of the project. Recreational access to swimming and fishing areas near the bridge may be restricted during construction.

3.18.2 Mitigation

The following mitigation measures will be taken for construction impacts:

- Air Quality – The contractor will be required to use appropriate dust control measures to minimize fugitive dust emissions as listed in Section 4.7.3 Air Quality Mitigation.
- Water Quality – The contractor will be required to do the mitigation requirements listed in Section 4.9.3 Water Resources/Quality.

- Visual – The contractor will be required to store all construction materials and equipment within a suitable designated construction staging area.

- Traffic – Closing the road and detouring traffic on an alternate route will be implemented. The contractor will be required to complete construction in a reasonable time period. Construction time is estimated at less than 10 months for this project and is not expected to have a major impact on traffic because alternative routes are available. The primary detour route will be Muskrat Lane, located approximately 3.2 kilometers (2 miles) north of the Boulder River Bridge. A secondary route called the Elkhorn Cutoff is located approximately 5.6 kilometers (3.5 miles) to the south.

3.19 *Section 4(f)* and *Section 6(f)*

Section 4(f) of the Department of Transportation Act of 1966 prohibits the use of public land in a park, recreation area, significant waterfowl or wildlife refuge, or significant historic site, unless: 1) There is no feasible or prudent alternative to the use of such land and 2) the project includes all possible planning to minimize harm. According to regulations contained in 23 CFR 771.135(a), a *Section 4(f)* evaluation must be prepared before the use of *Section 4(f)* property.

There are two types of use that constitute an impact to a designated *Section 4(f)* property:

- Direct conversion of use of a *Section 4(f)* property results from the purchase, lease, easement, or agreement to change the use of all or a portion of the property.

- Constructive uses result from an action that would "substantially impair" a current use of a *Section 4(f)* property. This can occur from noise impacts, visual impacts, major access restrictions, vibration impacts, or ecological intrusion. For historic properties, a constructive use occurs when there is an impact that would substantially impair the historic integrity of the property.

Implementation of the Preferred Alternative would result in an impact to the Boulder River Bridge, an historic property. The bridge is covered by a programmatic *Section 4(f)* evaluation for historic sites. The programmatic *Section 4(f)* is contained in Appendix B.

Section 6(f) of the Land and Water Conservation Fund Act pertains to use of lands that are funded by appropriations under this Act. There are no lands purchased by Land and Water Conservation funds in the vicinity of the Boulder River Bridge; therefore, the Preferred Alternative would not impact lands that fall under this category.

3.20 Secondary and Cumulative Impacts

A search of the MDT database confirmed that there are no other MDT projects in the immediate vicinity of this project. This project will not result in any significant cumulative environmental impacts.

3.21 Irreversible and Irretrievable Commitment of Resources

Implementation of the Preferred Alternative will involve a commitment of a range of natural, physical, human and fiscal resources. Land that will be used in the construction of The Preferred Alternative will be considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need for use of the land were to arise, or if the highway facility were no longer needed, the land will be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Minor amounts of fossil fuels, labor and highway construction materials such as cement, aggregate and bituminous material will be expended in the construction of a build alternative. Additionally, minor amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect on continued availability of these resources. Any construction will also require a substantial expenditure of both state and federal funds which are not retrievable and will require allocation of funds which may be used by other projects.

4.0 Comments and Coordination

4.1 Public Involvement Activities

Public involvement activities included two public meetings and a citizens advisory committee, known as the "Red Bridge Committee". Public meetings took place in Boulder, Montana on December 7, 1995 and April 13, 1996. Due to inclement weather, the December 7, 1995 meeting had only one attendee. A committee of concerned local citizens, called the Red Bridge Committee, was formed to review and recommend alternatives for the replacement of the bridge. The committee sought to preserve the historical significance of the Boulder River Bridge and to ensure that an emphasis will be placed on the aesthetic integrity of the new bridge. A final report was issued by the Red Bridge Committee on January 21, 1997 and was approved by the Jefferson County Commissioners on January 22, 1997. The committee's recommendations were incorporated into the Memorandum of Agreement (MOA), between MDT, Federal Highway Administration (FHWA), Montana SHPO, and the Advisory Council on Historic Preservation (ACHP) signed in March 1997. See Appendix A *"Nationwide" Programmatic Section 4(f) Evaluation for Historic Bridges*. See Appendix B for April 13, 1996 meeting minutes, sign-in sheets, and public comments.

4.2 Agencies with Jurisdiction

The following agencies have jurisdiction over this project:

• Montana Department of Fish Wildlife and Parks (MDFWP)	*124 Stream Preservation Act (SPA) Permit*
• Jefferson County	*Floodplain Development Permit*
• U.S. Corps of Engineers (COE)	*Section 404 Permit*
• Montana Department of Environmental Quality (MDEQ)	*Section 402 / Montana Pollutant Discharge Elimination System (MPDES) Permit*

4.3 Other Agencies, Persons, or Groups Contacted or Contributing Information

The following agencies, persons, or groups were contacted or contributed information regarding the project:

- Jefferson County Commissioners
- Red Bridge Committee
- Montana Department of Natural Resources and Conservation (DNRC)
- Montana Natural Heritage Program (MNHP)
- Montana State Historic Preservation Office (SHPO)
- Advisory Council on Historic Preservation (ACHP)

- Natural Resources and Conservation Service (NRCS)
- U.S. Fish and Wildlife Service (USFWS)
- Federal Highway Administration (FHWA)
- Butte Office of the Bureau of Land Management (BLM)
- Jefferson County Planner and Zoning Administrator
- Water Quality Specialist for the Montana Dept. of Environmental Quality (MDEQ)
- The Superintendent for Jefferson County Public Schools
- County Commissioner of Jefferson County
- Harlow's Bus Service (Public School Bus Service)

The following websites were used to collect data:

- Department of Environmental Quality--www.deq.state.mt.us
- Montana Natural Heritage Program--nris.state.mt.us/mtnhp/
- Montana Department of Commerce--commerce.mt.gov
- U.S. Department of Agriculture--www.nass.usda.gov
- Montana Department of Labor and Industry--rad.dli.state.mt.us
- U.S. Census Bureau--www.census.gov/population

4.4 Remaining Public Involvement

A Notice of Availability and Public Comment Period on the Environmental Assessment (EA) will be advertised in the local newspaper and mailed to all parties on the project mailing list. The Public Comment Period will be 30 days. Comments received will be reviewed. If no additional investigation is warranted, and no significant impacts are identified, no additional public involvement is planned. A public hearing will not be held unless requested by members of the public.

After receipt of all public and agency comments, a Finding of No Significant Impact (FONSI) will be prepared, if appropriate, which will summarize written comments received and provide responses. An Environmental Impact Statement will be prepared if a FONSI is not appropriate.

5.0 List of Preparers

The following individuals had responsibility for preparing this document:

Federal Highway Administration
Montana Department of Transportation
Carter & Burgess, Inc.

Appendix A

"Nationwide" Programmatic *Section 4(f)* Evaluation for Historic Bridges

MONTANA DIVISION

"NATIONWIDE" PROGRAMMATIC *SECTION 4(f)* EVALUATION FOR HISTORIC BRIDGES

Project # BR 9022 (10), (P.M.S. C#1093) Date: March, 1999

Project Name: Boulder River Bridge- South of Boulder Location: Jefferson County

This proposed project requires use of a historic bridge structure that is on, or eligible for listing on the NATIONAL REGISTER OF HISTORIC PLACES. A description and location map/"Translite" of this proposed bridge replacement project is attached. A *Bridge Sufficiency Report, Memorandum of Agreement, Determination of Effect, SHPO Concurrence letter, and bridge inventory forms are attached.*

NOTE: *Any response in a box will require additional information, and may result in an individual evaluation/statement. Consult the "Nationwide" Section 4(f) Evaluation procedures.*

	YES	NO
1. Is the bridge a NATIONAL HISTORIC LANDMARK?	☐	X
2. Have agreements been reached through the procedures pursuant to *Section 106* of the *National Historic Preservation Act* with the following:		
STATE HISTORIC PRESERVATION OFFICE (SHPO)?	X	☐
ADVISORY COUNCIL ON HISTORIC PRESERVATION (ACHP)?	X	☐
3. Any other agency/ies with jurisdiction at this location?	X	
a) If "YES" will additional approval(s) for this *Section 4(f)* application be required?	☐	X
b) List of agencies with jurisdiction at this location:		
USA - CORPS OF ENGINEERS (*Section 404* Permit)	X	
USDA - Forest Service	☐	X
USDA - Soil Conservation Service (*FPPA*)	☐	X
FEMA Regulatory Floodway (Permit)	☒	
MDFW&P - Parks Division (Fishing Access Site)	☐	X
MDFW&P - Wildlife Division (wetlands)	☒	
MDFW&P - Fisheries Division (*MSPA*)	☒	
MDSL (navigable rivers under state law)	☐	X
MDEQ - Air And Waste Management Bureau		X
MDH Water Quality Bureau		X
MDNR&C (irrigation systems)		X
Other: (19)		X

ALTERNATIVES & FINDINGS

EACH of the following **ALTERNATIVES** for this proposed project have been evaluated to avoid the use of the historic bridge:

1. "Do Nothing."
2. Rehabilitate the existing bridge without affecting the historic integrity of the structure in accordance with the provisions of *Section 106* in the *NHPA*.
3. Construct the proposed bridge at a location where the existing historic structure's integrity will not be affected as determined by the provisions of the *NHPA*.

The above **ALTERNATIVES** have been applied in accordance with this PROGRAMMATIC *SECTION 4(f)* EVALUATION and are supported by **EACH** of the following **FINDINGS:**

	YES	NO
1. The "Do Nothing" **ALTERNATIVE** has been evaluated and has been found to ignore the basic transportation need at this location.	X	☐
This **ALTERNATIVE** is neither feasible nor prudent for the following reasons:		
a) Maintenance — this **ALTERNATIVE** does not correct the structurally deficient condition and/or poor geometrics (clearances, approaches, visibility restrictions) found at the existing bridge. Any of these factors can lead to a sudden catastrophic collapse, and/or a potential injury including loss of life. Normal maintenance will not change this situation.	X	☐
b) Safety — this **ALTERNATIVE** also does not correct the situation which causes the existing bridge to be considered deficient. Because of these deficiencies, the existing bridge presents serious and unacceptable safety hazards to the travelling public and/or places intolerable restrictions (gross vehicle weight, height, and/or width) on transport.	X	☐
A copy of the MDT Bridge Bureau's Inspection Report is attached.	X	☐
2. The rehabilitation **ALTERNATIVE** has been evaluated with one or more of the following **FINDINGS**:		
a) The existing bridge's structural deficiency is such that it cannot be rehabilitated to meet minimum acceptable load and traffic requirements without adversely affecting the structure's historic integrity.	X	
b) The existing bridge's geometrics (height, width) cannot be changed without adversely affecting the structure's historic integrity.	X	

ALTERNATIVES & FINDINGS (#2 - conclusion:)

	YES	NO
c) This **ALTERNATIVE** does not correct the serious restrictions on visibility (approach geometrics, structural requirements) which also contributes to an unsafe condition at this location.	X	
Is this rehabilitation **ALTERNATIVE** therefore considered to be feasible and/or prudent based on the preceding evaluations?	[_]	X

3. The relocation **ALTERNATIVE**, in which the new bridge has been moved to a site that presents no adverse effect upon the existing structure has also been considered under the following **FINDINGS**:

	YES	NO
a) Terrain and/or local geology. The present structure is located at the only feasible and/or prudent site for a bridge on the existing route. Relocating to a new site — either up-, or downstream of the preferred location — will result in extraordinary bridge/approach engineering and associated construction costs.	X	
The preferred site is the only prudent location due to the terrain and/or geologic conditions in the general vicinity.		X
Any other location would cause extraordinary disruption to existing traffic patterns.		X
b) Significant social, economic and/or environmental impacts. Locating the proposed bridge in other than the preferred site would result in significant social/economic impacts such as the displacement of families, businesses, or severing of prime/unique farmlands.		X
Significant environmental impacts such as the extraordinary involvement in wetlands, regulated floodplains, or habitat of threatened/endangered species are likely to occur in any location outside the preferred site.		X
c) Engineering and economics. Where difficulty/ies associated with a new location are less extreme than those listed above, the site may still not be feasible and prudent where costs and/or engineering difficulties reach extraordinary magnitudes. Does the **ALTERNATE** location result in significantly increased engineering or construction costs (such as a longer span, longer approaches, etc.)?	X	
d) Preservation of existing historic bridge may not be possible due to either or both of the following:		
the existing structure has deteriorated beyond all reasonable possibility of rehabilitation for a transportation or alternative use;	X	
no responsible party can be located to maintain and preserve the historic structure.		X

ALTERNATIVES & FINDINGS (#3. - conclusion:)

	YES	NO
Therefore, in accordance with the previously-listed FINDINGS it is neither feasible nor prudent to locate the proposed bridge at a site other than the preferred **ALTERNATE** as described.	X	☐

MEASURES TO MINIMIZE HARM

This "Nationwide" Programmatic *Section 4(f)* Statement applies only when the following **Measures to Minimize Harm** have been assured; a check in a box MAY void the Programmatic application — if so, a full *Section 4(f)* Evaluation **will be required**:

	YES	NO
1. Is the bridge being rehabilitated under this proposed project?	___	X
If "YES", is the historic integrity of the structure being preserved to the greatest extent possible; consistent with unavoidable transportation needs, safety, and load requirements?	_	☐
NOTE: If "NO", refer to item 2., following, to determine Programmatic applicability.		
2. The bridge is being replaced, or rehabilitated to the point where historic integrity is affected. Are adequate records being made of the existing structure under HISTORIC AMERICAN ENGINEERING RECORD standards, or other suitable means developed through consultation with SHPO and the ACHP?	X	☐
3. If the bridge is being replaced, is the existing structure being made available for alternative use with a responsible party to maintain and preserve same? *A portion of the existing structure will be used on the new bridge*	_	☒
4. If the bridge is being adversely affected, has agreement been reached through the *Section 106* process of the *National Historic Preservation Act* on these **Measures to Minimize Harm** (which will be incorporated into the proposed project) with the following:		
SHPO March 17, 1997	X	☐
ACHP April 3, 1997	X	☐
FHwA March 21, 1997	X	☐
A copy of the **Programmatic Memorandum of Agreement (P.M.o.A.)** signed/approved by these agencies is attached. [Since with the M.O.A., a P.M.O.A.. does not apply, the M.O.A. is attached.]	__	☒

COORDINATION

There has been additional **COORDINATION** with the following agencies regarding this proposed project (other than those listed previously):

City/County government: Jefferson County Commission
Local historical society: ______
Adjacent property owners: ______
Others: Red Bridge Committee

Copies of letters from these agencies regarding this proposed project are attached. This proposed project is also documented as an Environmental Assessment under the requirements of the *National Environmental Policy Act* (**42 U.S.C. 4321**, *et seq.*).

SUMMARY & APPROVAL - The proposed action meets all criteria regarding the required **ALTERNATIVES**, **FINDINGS**, and **Measures to Minimize Harm** which will be incorporated into this proposed project. This proposed project therefore complies with the July 5, 1983 Programmatic *Section 4(f)* Evaluation by the U.S. DEPARTMENT OF TRANSPORTATION's Federal Highway Administration. This document is submitted pursuant to **49 U.S.C. 303** and in accordance with the provisions of **16 U.S.C. 470f**.

Karl M Helvik
Karl M. Helvik, P.E.
Engineering Bureau Chief
Environmental Services

Date: 4-23-99

Approved: ______
Federal Highway Administration

Date: 9-27-99

"ALTERNATIVE ACCESSIBLE FORMATS OF THIS DOCUMENT WILL BE PROVIDED ON REQUEST."

JMM:KMH:jl

Attachments

cc: Jason Giard, P.E. - Butte District Administrator
Carl S. Peil, P.E. - Preconstruction Engineer
Joseph P. Kolman, P.E. - Bridge Engineer
Thomas E. Martin, P.E., Right-of-Way Bureau Chief
David W. Jensen, Supervisor - Fiscal Programming Section
Mark A. Wissinger, P.E., Supervisor - Contract Plans Section
Joel M. Marshik, P.E., Manager - Environmental Services
Jeanette Lostracco, AICP – Carter & Burgess, Inc.

Montana Department of Transportation
Printing Date Monday, April 19 1999

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Form: bms001c

INITIAL ASSESSMENT FORM FOR STRUCTURE :

L22304000+03001

Location : 4M S BOULDER
Structure Name : Red Bridge

General Location Data

District Code, Number, Location : 02 Dist 2 BUTTE
Division Code, Location :21 BUTTE
County Code, Location : 043 JEFFERSON
City Code, Location :00000 RURAL AREA
Kind fo Hwy Code, Description : 4 4 County Hwy
Signed Route Number :22304
Str Owner Code, Description : 2 County Highway Agency
Maintained by Code, Description 2 County Highway Agency
Intersecting Feature : BOULDER RIVER 031
Kilometer Post, Mile Post : 0.48 km 0.30
Structure on the State Highway System : ☐
Latitude : 46°10'30"
Structure on the National Highway System : ☐
Longitude : 112°05'30"
Str Meet or Exceed NBIS Bridge Length : ☒

Construction Data

Construction Project Number :
Construction Station Number : 0+00.00
Construction Drawing Number : none
Construction Year : 1899
Reconstruction Year : 0

Traffic Data

Current ADT : 100
ADT Count Year : 1995
Percent Trucks : 3 %

Structure Loading, Rating and Posting Data

Loading Data :

Design Loading :		0 Other or Unknown
Inventory Load, Design	2.7 mton	2 AS Allowable Stress
Operating Load, Design	2.7 mton	2 AS Allowable Stress
Posting		0 >39.9% below

Rating Data :

	Operating	Inventory	Posting
Truck Type 1 :	3	3	1
Truck Type 2 :	3	3	
Truck Type 3 :	3	3	

Structure Roadway, Span and Clearance Data

Structure Deck, Roadway and Span Data :

Structure Length : 22.56 m
Number of Main Spans : 1
Number of Approach Spans : 0
Deck Area : 107.00 m sq
Deck Roadway Width : 4.72 m
Approach Roadway Width : 4.38 m

Structure Vertical and Horizontal Clearance Data :

Vertical Clearance Over the Structure : 4.75 m
Reference Feature for Vertical Clearance : N Feature not hwy or RR
Vertical Clearance Under the Structure : 0.00 m
Reference Feature for Lateral Underclearance : N Feature not hwy or RR
Minimum Lateral Under Clearance Right : 0.00 m
Minimum Lateral Under Clearance Left : 0.00 m

Structure Vertical and Horizontal Clearance Data By Span and Inventory Route :

Span Group	Over / Under Direction	Inventory Route	South, East or Bi-directional Travel			North or West Travel		
			Direction	Vertical	Horizontal	Direction	Vertical	Horizontal
0	Route On Structure	L22304	Both	4.75 m	4.72 m	N/A		

Inspection Data

Inspection Due Date : 13 February 2000
(91) Inspection Fequency (months) :24

NBI Inspection Data

Sufficiency Rating : 23.4
Structure Status : Structurally Deficient and Eligible for Replaceme

(90) Date of Last Inspection : 13 February 1998
Last Inspected By : Jeff Meyer - 54
(90) Inspection Date :
Inspected By :

(67) Structure Rating : 2
(58) Deck Rating : 4
(59) Superstructure Rating : [illegible]
(60) Substructure Rating : [illegible]
(68) Deck Geometry : [illegible]
(72) App Rdwy Align : 4
(41) Posting Status : P
(36A) Bridge Rail Rating : 0
(36B) Transition Rating : N
(36C) Approach Rail Rating : N
(36D) End Rail Rating : 0
(62) Culvert Rating : N
(61) Channel Rating : 4
(113) Scour Critical : U
(71) Waterway Adequacy : 4

Crew Hours for inspection : [illegible]
Helper Hours : [illegible]
Special Crew Hours : [illegible]
Special Equipment Hours : [illegible]
Snooper Required : N
Snooper Hours for Inspection : [illegible]
Flagger Hours : [illegible]
Unrepaired Spalls : [illegible] M SQ
Deck Surfacing Depth : [illegible] IN

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Form. bms001c

INITIAL ASSESSMENT FORM FOR STRUCTURE :

L22304000+03001

Location : 4M S BOULDER

Structure Name : Red Bridge

Span Data

Group : 0 **Type : Main** **Description :**

Material Type Code, Description : 3 Steel
Span Design Code, Description : 10 Truss - Thru

Deck Structure Type : 8 Wood or Timber
Deck Surfacing Type : 7 Wood or Timber
Deck Protection Type : 0 None
Deck Membrain Type : 0 None

Median Code, Description : 0 No median
NBI Main Span Flag : X
NBI Approach Span Flag :

4.88 m
0.00 m
0.00 m
Skew Angle : 0

Element Inspection Data

Element No. / Element Description	Smart Flag	Env	Quantity	Units	Insp Each	Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
31 Timber Deck		2	107	sq.m.	X	0	0 %	0	0 %	107	100 %	0	0 %		

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Element No. / Element Description	Smart Flag	Env	Quantity	Units	Insp Each	Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
120 U/Stl Thru Truss/Bot		2	46	m.		0	0 %	40	[illegible] %	0	0 %	46	100 %		

Previous Inspection Notes :

02/13/1998 - Bottom chords are severely sagging and are no longer acting in tension. Lack of members carrying load is putting more load stresses on truss members that are also badly corroded.

Inspection Notes:

Element No. / Element Description	Smart Flag	Env	Quantity	Units	Insp Each	Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
125 U/Stl Thru Truss/Top		2	46	m.		0	0 %	0	0 %	46	100 %	0	0 %		

Previous Inspection Notes :

02/13/1998 - Loads increased on truss members due to severe misalignment of bottom chord could result in local failure.

Inspection Notes:

Montana Department of Transportation

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Form: bms001c

INITIAL ASSESSMENT FORM FOR STRUCTURE :

L22304000+03001

Location : 4M S BOULDER

Structure Name : Red Bridge

Span Data

Group : 0 **Type : Main** **Description :**

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
151		[redacted]				0	0	0	0	14	100	0	0	[redacted]	
Unpnt Stl Floor Beam		2	14	m.			%		%		%		%		

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
180		[redacted]				0	0	0	0	9	100	0	0	[redacted]	
Upnt Vert X-Frame		2	9	m.			%		%		%		%		

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
217		[redacted]				0	0	0	0	9	100	0	0	[redacted]	
Other Mtl Abutment		3	9	m.			%		%		%		%		

Previous Inspection Notes :

02/13/1998 - Steel piles with steel plate backwall [illegible]

Inspection Notes:

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
311		[redacted]				0	0	2	100	0	[illegible]	[redacted]			
Moveable Bearing		2	2	ea.			%		%		%				

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Montana Department of Transportation

Printing Date . Monday, April 19 1999

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Form. bms001c

INITIAL ASSESSMENT FORM FOR STRUCTURE :

L22304000+03001

Location : 4M S BOULDER **Structure Name :** Red Bridge

Span Data

Group : 0 **Type :** Main **Description :**

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
313		[redacted]				0	0	2	100	0	0	[redacted]			
Fixed Bearing		2	2	ea.		%		%		%					

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Element No.	Smart Flag	[redacted]				Qty 1	Pct 1	Qty 2	Pct 2	Qty 3	Pct 3	Qty 4	Pct 4	Qty 5	Pct 5
Element Description		Env	Quantity	Units	Insp Each	Pct Stat 1		Pct Stat 2		Pct Stat 3		Pct Stat 4		Pct Stat 5	
332		[redacted]				0	0	0	0	46	100	[redacted]			
Timb Bridge Railing		2	46	m.		%		%		%					

Previous Inspection Notes :

02/13/1998 [illegible]

Inspection Notes:

Montana Department of Transportation

Printing Date : Monday, April 19 1999

Printed by: OPSSU6310

INITIAL ASSESSMENT FORM FOR STRUCTURE :

L22304000+03001

Location : 4M S BOULDER

Structure Name : Red Bridge

General Inspection Notes

01/01/1901 - Sufficiency Rating Calculation Accepted by opssu5963 at 3/10/97 15:01:35
Sufficiency Rating Calculation Accepted by OPSSU8004 at 2/19/97 14:27:32
[illegible]

02/13/1998 -

MEMORANDUM OF AGREEMENT
BOULDER RIVER - SOUTH OF BOULDER
JEFFERSON COUNTY, MONTANA
BR 9022(10)
Control No. 1093

WHEREAS the Federal Highway Administration (FHWA) proposes to assist the Montana Department of Transportation (MDT) in funding the Boulder River - South of Boulder bridge replacement project.

WHEREAS FHWA has determined that the undertaking will have an effect on the Boulder River Bridge (24JF479), a property eligible for inclusion on the National Register of Historic Places, and has consulted with the Montana State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) and its implementing regulations, "Protection of Historic Properties" (36CFR 800);

WHEREAS MDT participated in the consultation and has been invited to concur in this Memorandum of Agreement; and

NOW, THEREFORE; FHWA, the Montana SHPO, and Council agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

FHWA shall ensure that the following measures are carried out:

1) The preferred alternative (Alternative A) will preserve a portion of the historic fabric of the Boulder River Bridge, while providing a new structure to Jefferson County. The preferred alternative will incorporate elements (i.e. steel stringers, and guardrails) that are stylistically compatible with the original bridge.

2) Prior to the initiation of construction activities, the MDT will conduct Level II recordation of the structure to Historic American Engineering Record standards and submit it to the Council, SHPO, local historical societies and be made available to the Federal Highway Administration's Transportation Research Board. The report will be prepared within sixty (60) days of the initiation of construction activities at the site.

3) The MDT will prepare and install a historical marker near the proposed bridge describing the history and significance of the historical Boulder River Bridge. The marker will also include information about efforts by local citizens and the county government to retain a portion of the original bridge.

4) If Alternative B (the construction of a prestressed concrete bridge without the side panels of the truss) is chosen, then the MDT will attempt to find a new owner for the Boulder River Bridge (24JF479). The bridge will be advertised for adoption through the *Helena Independent Record* and Butte's *Montana*

Standard. Public Service Announcements will also be aired on southwestern Montana AM and FM radio stations concerning the availability of the bridges for adoption. The bridge will also be advertised through the MDT's Internet Home Page. The bridge will be advertised for adoption for 45 days beginning on April 1, 1998.

5) The bridge will be adopted in accordance with the MDT's Adopt-A-Bridge policy (see Attachment 1).

6) If a new owner is found for the bridge, the MDT will notify the FHWA, Council and SHPO of the arrangement and will later provide documentation that the transfer of ownership has taken place.

7) If Alternative B is chosen, the bridge will be recorded per Stipulation 2 above.

8) If a dispute arises regarding the implementation of this Agreement, FHWA shall consult with the objecting party to resolve the dispute. If any consulting party determines that the dispute cannot be resolved, FHWA shall request the further comments of the Advisory Council on Historic Preservation pursuant to the Council's regulations.

EXECUTION OF THIS MEMORANDUM OF AGREEMENT and implementation of its terms evidences that FHWA has afforded the Council an opportunity to comment on the North Main Street - Helena highway reconstruction project and its affects to historic properties, and that FHWA has taken into account the effect of the Undertaking on historic properties.

Federal Highway Administration

3-21-97
(Date)

Montana State Historic Preservation Office

3-17-97
(Date)

Advisory Council on Historic Preservation

4/3/97
(Date)

Concurring Party:

Joel M.

Montana Department of Transportation

March 11, 1997

(Date)

DETERMINATION OF EFFECT

Boulder River Bridge - South of Boulder

BR 9022(10)

Introduction

The Montana Department of Transportation (MDT) intends to replace the existing Boulder River (Red) Bridge on a county road approximately two miles southeast of Boulder in Jefferson County, Montana. The existing bridge consists of a single-span pin-connected Pratt through truss that was constructed in 1899. Figure 1 shows the project area on the 1980 General Highway Map.

Three alternatives have been proposed for this project. Alternative A consists of the construction of a new steel bridge on the existing alignment. The existing bridge's trusses, however, would be salvaged and placed on top of the new bridge to provide the illusion of a historic bridge to travelers. Alternative B includes the construction of a prestressed concrete bridge on approximately the same alignment as the existing bridge. Finally, Alternative C is the No-Build alternative. No new Right-of-Way (R/W) would be required for the project.

Significant Cultural Resources

The Boulder River Bridge (24JF479) was determined eligible for the National Register of Historic Places (NRHP) by the MDT and the Montana State Historic Preservation Office in 1985.

Built in 1899 by the Gillette-Herzog Manufacturing Company of Minneapolis, the bridge once facilitated traffic between the silver mines and ranches in the Boulder River valley and the Montana Central Railroad station at Boulder. The bridge is eligible for the NRHP under Criteria A and C.

Project Impact

Preliminary designs for Alternatives A and B have been completed and are attached (Attachments 1 and 2).

Under Alternative A, the existing Boulder River Bridge would be removed. It would be replaced with a three-span steel girder bridge resting on steel pipe-type piers. The bridge would include a concrete deck and Wyoming box beam-type steel guardrails. The side panels of the existing bridge trusses would be anchored to concrete piers on either side of the deck. Because the proposed bridge deck would be 8-feet wider than the existing 15.5-foot wide deck, the original overhead web members would be removed and replaced with extended steel members to accommodate the wider structure. The truss panels would no longer be a structurally functional component of the bridge, but would remain as decoration (Attachment 1).

For Alternative B, the MDT would remove the existing bridge and replace it with a 3-span, 110-foot prestressed concrete structure. The proposed bridge would be constructed on approximately the alignment as the existing bridge (Attachment 2).

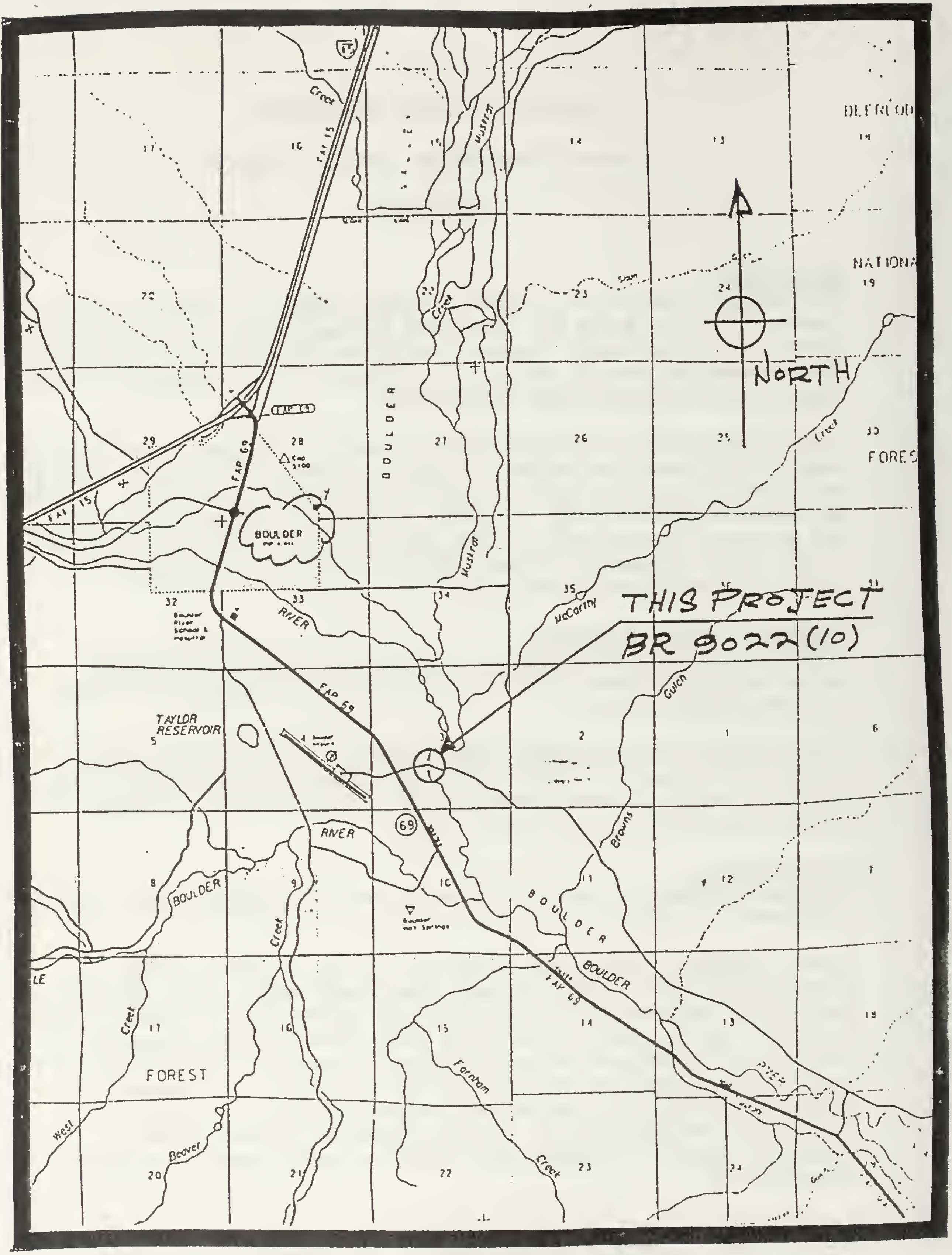


Figure 1. Map showing location of proposed project area.

Alternate C is the No-Build alternative.

Project Effect

The proposed project would have an **Adverse Effect** to the NRHP-eligible Boulder River Bridge (24JF479) under Alternative A. The only portion of the old bridge to be re-utilized would be the side panels of the truss. The existing steel stringers and floor beams of the floor system would be removed as would the existing guardrail, decking and overhead web members. Virtually none of the bridge's historic fabric would remain intact. The historic appearance of the bridge would be altered somewhat, but would generally appear much the same. The Wyoming box beam guardrails would approximate the historic appearance of the guardrails and the new stringers would also be similar in appearance to the original components. The pipe piles would also somewhat resemble the existing bridge abutmnets. Although the historic overhead web members would be replaced by longer components, the existing configuration would be retained. Finally, the new structural components would be allowed to rust in order to give the bridge an overall uniform appearance.

Alternative B would have an **Adverse Effect** to the Boulder River Bridge. Because of the proximity of the proposed bridge to the site of the existing bridge, the historic structure would be removed. The existing bridge would, however, be offered for adoption according to the provisions of the MDT's Adopt-A-Bridge Program.

There would be **No Effect** to the bridge as a result of Alternative C - the No-Build Alternative.

Alternates

Alternate A was selected as the preferred alternative by consensus between the MDT and the bridge's owners, the Jefferson County Commissioners. In 1996, the County Commissioners formed a committee composed of residents concerned about the disposition of the historic bridge. The members of the Red Bridge Committee, along with the Jefferson County Commissioners developed Alternative A as a compromise to the demolition or removal of the Boulder River Bridge. A copy of the county's support for this alternative is included as Attachment 3.

Alternative B was considered, but rejected by the Red Bridge Committee and the Jefferson County Commissioners as an unacceptable solution to the concerns raised by the Committee. Although the MDT offered to donate the old bridge to the county for use at an alternate location, there was little support for this solution by either the county or Red Bridge Committee. Consequently, it was dropped from consideration by those groups and the MDT. Likewise the No-Build Alternative (Alternative C) was considered and discarded because of the need for a safe and reliable facility for crossing the Boulder River in this rapidly growing area.

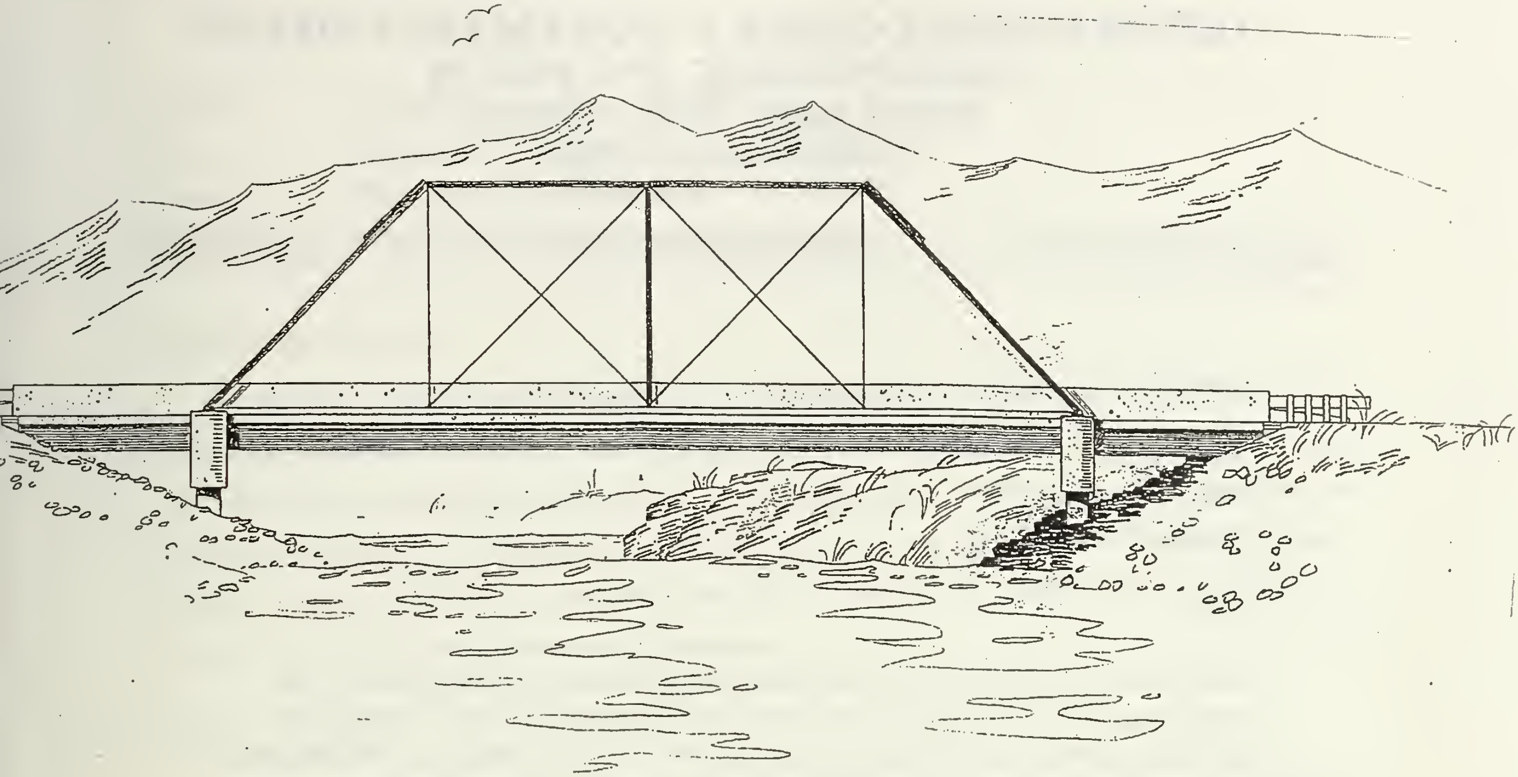
Mitigation

The MDT considers Alternative A as mitigation to the complete demolition of the NRHP-eligible Boulder River Bridge (24JF479). While much of the historic fabric of the bridge would be removed and discarded, the truss panels would be retained and new overhead members installed to match the existing configuration. The bridge would retain a semblance of its historic appearance and resemble somewhat the historic character of the river crossing. Alternative A is the result of a compromise by the MDT, Jefferson County Commissioners and their appointed Red

Bridge Committee.

The MDT would, however, conduct a Level II documentation of the existing bridge to Historic American Engineering Record (HAER) standards prior to the initiation of construction activities at the site. The document would include a detailed historical record of the bridge, a structural description and photographs. The document would be submitted to the Advisory Council on Historic Preservation, Montana SHPO, Montana Historical Society, local historical society and be made available through the Federal Highway Administration's Transportation Research Board publication. In addition, the MDT would install a historical marker near the bridge describing the historic structure and efforts made by the local community to salvage a portion of it for incorporation into the proposed structure.

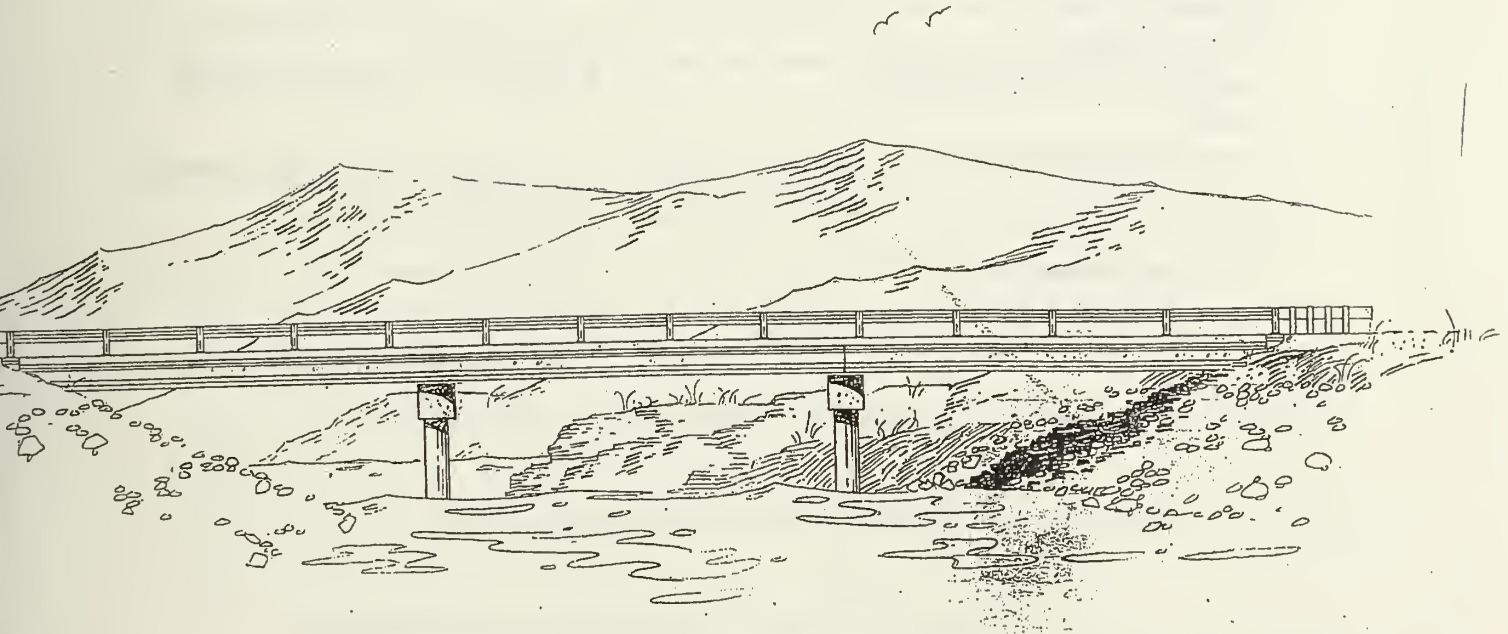
Attachment 1



TRUSSES- ATTACHED OPTION

STEEL BEAM (27" DEEP)

Attachment 2



STANDARD BRIDGE OPTION

TYPE I CONCRETE BEAMS (

Attachment 3

JEFFERSON COUNTY COMMISSIONERS
COURTHOUSE, PO BOX H
BOULDER, MT 59632
PHONE 406-225-4025
FAX 406-225-4148

GLENNA OBIE, CHAIR **LEONARD WORTMAN** **SAM SAMSON**

January 31, 1997

Joe Kolman
2701 Prospect Ave
Helena, MT 59620

Joe:

Enclosed is a copy of the Red Bridge proposal as compiled by our Red Bridge Committee. The committee's proposal was approved by the county commission at its January 22nd meeting. Thank you for you help and work on this project. Everyone seems happy with the outcome. (Sometimes wonders do never cease, ho, ho!) Please keep me informed. If you have any questions or advice please call me at: 225-4028.

Thanks again,

Sam Samson

Sam Samson
Jefferson Co Commission
Box H
Boulder, MT 59632

☆ Joe – Please note
pg 2 III "Walkways"

cc: Paul Richards
Ed McCauley

[illegible]
Joe -

Date: Tuesday, January 21, 1997
To: Jefferson County Commissioners
From: Red Bridge Committee
Re: Red Bridge Options - Final Report

Dear Commissioners,

Having reviewed options regarding the Old Red Bridge, this Committee recommends the following preferred alternative. It is imperative that the Board of County Commissioners meets all of the criteria requested below by this Committee. In the event the Commissioners and/or the Montana Department of Transportation (MDOT) cannot meet all the criteria requested, it then becomes necessary for the Commission to return the issues to the Committee to be weighed against other options available to the Committee.

Bridge Design

It is this Committee's preferred option to retain the historic Red Bridge trusses and iron works on a new steel beam bridge. Please refer to MDOT drawings c:\dgn\sktch.brg (or exhibit "A"), c:\dgn\sktch.org (or exhibit "B"), and BR 90222 (10) (or exhibit "A and B") of November 25, 1996. It is this Committee's desire that the historical significance of the Old Red Bridge remains intact and that every emphasis will be placed on aesthetic congruity. The Committee asks that MDOT consult with and receive approval from the Montana State Historic Preservation Office regarding the compatibility of coloration, discoloration, and weathering of the old and new bridge components.

Guard Rails, Post and Pole Fencing, and Barbed Wire Fencing

New bridge guard rails, fences leading to bridge railings, and right of way fences are required. The Committee proposes the following (Exhibit "C") to ensure:

A. The public will be able to easily access the river and swimming hole without having to negotiate barbed wire.

B. The ranchers' cows will easily be funneled onto the bridge by post and pole fencing.

C. Adjacent private landowners' land will be protected by a barbed wire fence line.

I. Guard Rails - Bridge and Bridge Entryway

The above-mentioned MDOT design drawings utilize a specific "Wyoming Box Beam" bridge rail. Please refer to MDOT drawings c:\dgn\sktch.brg (or exhibit "A"), c:\dgn\sktch.org (or exhibit "B"). It is the consensus of this Committee that this bridge rail design, with its narrow horizontal tubing, will most accurately honor the historic aesthetics of the bridge, while providing necessary public safety. To insure historic compatibility, the MDOT will consult with and receive approval from the Montana State Historic Preservation Office regarding the compatibility of coloration, discoloration, and weathering of these bridge rails.

II. Post and Pole Fencing Leading to Bridge Entryway Guardrails

For the new fences leading towards the "Wyoming Box Beam" bridge rail, we ask they be built with debarked wood posts and poles utilizing poles inserted into the posts rather than nailed to them. An example of this type of fence construction, similar to a mortise-and-tenon, can be viewed at Marks Post and Pole.

We ask that MDOT consult with and receive approval from the Montana State Historic Preservation Office (SHPO) regarding the aesthetics of the interface between this fencing and the "Wyoming Box Beam" bridge rail.

Area ranchers believe the fencing design of "Exhibit C" will help the flow of livestock over the bridge. We ask MDOT to fully incorporate this design in order to insure that livestock will be prevented from being trapped behind the guardrail.

III. Barbed Wire Fencing Delineating Private Property Boundaries

For the necessary right-of-way fences, the Committee expects the full right of way to be demarcated by more conventional barbed wire fencing. This barbed wire fence will run to the river's high water mark on all four sides. Private property owners will have a protected boundary line, under the fencing design of "Exhibit C."

Walkways

☆ Refer to letter — Access only - not walkways.

Walkways to the Boulder River needs to be provided so as to access the public's right of way to the river within the Montana Stream Access Law. Walkways should remain within the County right of way. Walkways are not to include adjacent private property, without the expressed written permission of that private property owner.

Said walkways should be constructed so as to not allow the passage of livestock or vehicles to the river. Said walkways will be constructed so they can be safely negotiated by all ages of human pedestrian traffic. Said walkways will exist in at least two locations.

Public Swimming Hole/Fishing Hole

The Committee finds preservation of the existing public swimming/fishing hole to be of major community-significance. To this end, the County and MDOT will retain existing rip-rap that creates this swimming hole/fishing hole and ensure the stability of this rip-rap. It is the Committee's belief that the rip-rap that creates the swimming hole is below the high water mark (estimated to be 4-6 feet above the winter flow mark) on the northwest bridge corner. As long as the integrity of the swimming hole is assured, sloping of the streambank for additional freeboard will be allowed above the high water mark.

Area recreationalists believe the fencing design of "Exhibit C" will help those attempting access to the river avoid being snagged by barbed wire. We ask MDOT to fully incorporate this design in order to insure safe access to the river.

Signing of Private Property

The Committee asks that the County works closely with the Montana Department of Fish, Wildlife, and Parks and with adjacent landowners to properly mark and/or sign the high water mark under the Montana Stream Access Law MCA 23-2-302. This same signing could also occur approximately 300 feet upstream and downstream from the initial public right of way. The Committee recognizes that the need for public information about this new signing.

Trees

The Committee finds that the large trees along the streambank and within the public right of way are a major contribution to the public's experience of the swimming/fishing hole. All of these trees will be retained.

Historic Signing

The Committee finds that the Old Red Bridge has been a major contributor to the history of the Boulder valley for almost 100 years. Historic signing—reviewing this history and the bridge's contribution —will be erected within the public right of way. The signing will be aesthetically compatible with the weathered iron bridge and guard rails and the wooden post and pole fencing.

The Montana State Historic Preservation Office (SHPO) will consult with and receive approval from the Red Bridge Subcommittee regarding the wording, construction, and placement of this historic signing.

Bridge Original Dedication Plaques

The Committee finds that the original dedication plaques at the top of the Old Red Bridge are of significant historic value. It may be possible to paint the raised metal lettering on the original dedication plaques in a way that will not damage the plaques and will complement the historic values of this project. One of our Committee members, Ed Katzbeck, has volunteered to hand-paint this lettering, after consultation with the Montana State Historic Preservation Office (SHPO).

Public Safety

Within the constraints of right of way and access paths, MDOT and the County will allow for as much road width as possible (within the 80-foot right of way) on the east side of the river. This width will allow for parking of a few vehicles, so as to not create a traffic hazard.

Cost/Benefit Ratio of Bridge Alternatives

The Committee's preferred option is to retain the historic Red Bridge trusses and iron works on a new steel beam bridge. Please refer to MDOT drawings c:\dgn\sktch.brg (or exhibit "A"), c:\dgn\sktch.org (or exhibit "B"), and BR 90222 (10) (or exhibit "A and B") of November 25, 1996. The economic, social, and environmental values of the Committee's preferred option are readily apparent.

In examining other alternatives, the Committee found major difficulties. Regarding a "standard bridge option" (Exhibit "D") built with pillars in the stream channel, the Committee believes these pillars would:

A. Adversely affect the river, swimming/fishing hole and area aesthetics;

B. Collect hazardous debris; and

C. Alter the scientific data gathered by the United State Geological Survey gauging station, immediately downstream from the bridge.

The above-stated facts are likely reasons why there are no other bridges on the Boulder River with pillars placed in the stream channel and why the Committee opposes this "standard bridge option."

In examining the "clear-span concrete truss bridge option" (Exhibit "E"), the

Committee found many adverse impacts, including:

A. The river, swimming/fishing hole, and aesthetics of the area would be adversely affected by the "clear-span concrete truss bridge option."

B. This "clear-span concrete truss bridge option" is considerably higher than our recommended steel beam span. The additional height required by this cement truss option would require additionally higher bridge entryways and exitways. This could pose unnecessary public hazards.

12" higher
using Type h

C. Montana Department of Transportation engineers have stated, in writing, that the higher bridge entryways and exitways of a "clear-span concrete truss bridge option" would require condemnation proceedings for additional right of way.

The Committee does not believe the well-being of the river, community, historic values, and private property owners would be served by this "clear-span concrete truss bridge option."

Funding

After thorough research and investigation, the Committee believes that all the above criteria can be met with funding from the Montana Department of Transportation and County matching funds.

In the event, the Committee's specific design suggestions incur costs above that which can be readily obtained, the Committee has already secured alternatives. They include:

A. The Committee is grateful that the County Commissioners have authorized $25,000 of CTEP funds towards the Old Red Bridge project.

B. The Committee also recognizes that the County has committed $8,000 from the county bridge fund towards saving the historical value of the Old Red Bridge.

C. In his January 7, 1997, meeting with the Committee, county grant writer Ken Luraas told the Committee that the above-mentioned amounts were adequate to sufficiently "leverage" additional costs beyond MDOT project funding, should any be incurred. Should Luraas require assistance, a subcommittee of Ed Katzbeck and Paul Richards has volunteered.

Conclusion

The Committee is grateful to the County for its support of this project. The Committee looks forward to the implementation of its recommendations. As these recommendations are implemented, the Committee is confident that the Red Bridge Project will become a beautiful and valued community asset.

of this historic signing.

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In examining other alternatives, the Committee found major difficulties. Regarding a "standard bridge option" (Exhibit "D") built with pillars in the stream channel, the Committee believes these pillars would:

A. Adversely affect the river, swimming/fishing hole and area aesthetics;

B. Collect hazardous debris; and

C. Alter the scientific data gathered by the United State Geological Survey gauging station, immediately downstream from the bridge.

The above-stated facts are likely reasons why there are no other bridges on the Boulder River with pillars placed in the stream channel and why the Committee opposes this "standard bridge option."

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12" higher
using Type H

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Conclusion

The Committee is grateful to the County for its support of this project. The Committee looks forward to the implementation of its recommendations. As these recommendations are implemented, the Committee is confident that the Red Bridge Project will become a beautiful and valued community asset.

Respectfully submitted,

THE RED BRIDGE COMMITTEE

Zeb Compton

Zeb Compton

LeRoy Fadness

Leroy Fadness

John Heide

John Heide

Edward W Katzbeck

Ed Katzbeck

Ed McCauley

Terry Minow

Paul Richards

Paul Richards

MONTANA HISTORICAL SOCIETY
HISTORIC PRESERVATION OFFICE
225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

Date Recd. Preconst. 6/10/81

Act	Info	MAIL ROUTE	Attach	Initial
		30		
		30 Eng. Specialties		
		31 Contract Plans		
		32 Loc. Road Design		
		32 Environmental		
		34 Hydraulic		
		35 Surfacing Design		
		35 Photogrammetry		
		Rapp		
		36 Traffic		
		37 Pub. Hearing		
		- Urban		
		- Consultant Design		

June 9, 1981

Mr. Jerry Rogers
Acting Keeper of the National Register
Department of Interior
440 G Street NW
Washington, D.C. 20243

Dear Mr. Rogers:

Re: Boulder River Bridge

We concur with the judgment of the Montana Department of Highways regarding the historical significance of the Boulder River Bridge and its eligibility for inclusion in the National Register of Historic Places. In the HAER Historic Bridge Inventory which has just been completed by the Montana Department of Highways, the Boulder River Bridge was highlighted as one of the 56 bridges found to be potentially eligible for listing in the National Register. As the last remaining bridge across the Boulder River dating from the 19th Century, the Boulder River Bridge is an important reminder of the early extensive mining and lumbering activity in the mountains east of Boulder, Montana. The bridge has provided a vital transportation link between the Elkhorn mining district and the community of Boulder. The Boulder River Bridge is one of the eight pre-1900 bridges remaining in the State which was constructed by the Minneapolis based Gillette Herzog Manufacturing Company. This bridge across the Boulder River is a good example of the single span, pin-connected Pratt-through truss construction and, although in need of repair, continues to serve its original function.

Thank you for your consideration.

Sincerely,

Marcella

Marcella Sherfy
Deputy SHPO

PB/MS/det

Copy to Ole Lee.
Nat Reg. informed
him they had no
record of SHPO's
views of bridge
6/23/81

SITE FORM NO. 1

Montana Tech Alumni Foundation
MINERAL RESEARCH CENTER
Post Office Box 3708 • Butte, Montana 59701

Cultural Resource Inventory

1. Site Number 24JF 479
2. County Jefferson
3. State Montana
4. Site Name Boulder River Bridge
5. Other Names For Site Red Bridge / Hubbard Bridge

6. City or Town Vicinity of X
Boulder, Montana

7. Map Reference
USGS Quadrangle
Boulder, Montana 1954

8. Township & Range Number
T5N R4W

9. Section Number
SE¼ NE ¼ SW ¼ Sect. 3

10. Latitude
46 ° 11 ' 0 "

11. Longitude
112 ° 05 ' 0 "

12. U.T.M. Reference

Zone	Easting	Northing
12	415800	5117800

Surface Ownership:
15. Federal ☐ State Private
Jefferson County

16. Mineral Ownership:
Federal ☐ State Private
All Minerals ☐
Coal Only ☐
NA

17. Project Name
Montana Highway Department
1981

18. National Register
On
Nominated
Determined Eligible X
Recommended
Need Data
Not Eligible

Boulder River Bridge was determined eligible on June 26, 1981

19. Site located by & Date
C. Moore 9-10-81

20. This Record by & Date
P. Steere 10-4-81

21. Revisions by & Date
none

22. Site Category
Historic X
Prehistoric
Other specify

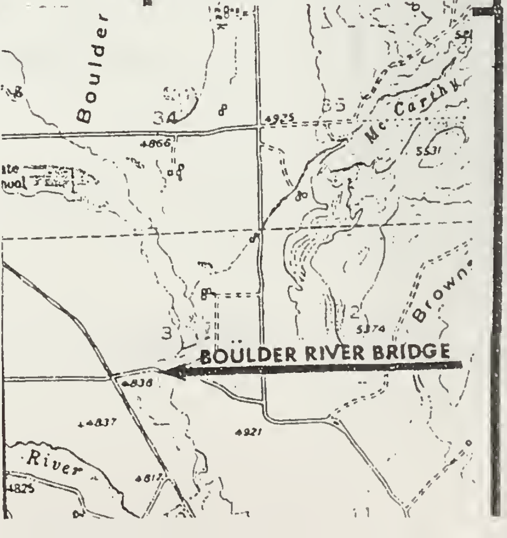
23. Site Status
Survey X
Photo/map X
Tested
Excavated
Other specify
Comment:

13 Publications

MONTANA HISTORIC BRIDGE INVENTORY BY Frederic L. Quivik for the Planning and Research Bureau, Montana Highway Department

14. Narrative of site location and access to site

From the town of Boulder, drive south on U.S. 281 approximately 2 miles, turn left(east) on dirt road, drive ¼ mile to the bridge site



TE FORM NO. 2

ETTING AND CONDITION OF SITE

Site Name Boulder River Bridge

nylogeography

1. Elevation
Meters 4838 Feet

2. Distance, direction and nature of nearest water source.

immediate vicinity

3. Soil (color, character, depth)

gray wooded and brown pod zolic soils

4. Geographic land form/ topography character/ slope / site faces:

The site is a bridge across the Boulder River

5. General vegetative community

Montana Valley
vegetation
range grass, willow, alder cottonwood-
riparian zone

6. On-site vegetation

same

Site condition

7. Natural deterioration

Degree
none
light X
moderate X
heavy
complete

Type
sheetwash
gully
wind erosion
animal disturb.
natural weathering X

8. Human Disturbance (real/potential)

Degree		Type	Distance From
light		buildings	
moderate		towers	
complete	X	roads	
unknown			

Comments: If the bridge is torn down and replaced.

9. Environmental/Economic threats to site

Private development
Zoning
Vandalism, deterioration

X Public works project
Mining
Other (specify)

Comments: If the Montana Highway Department and the Jefferson County government decide to replace the bridge, it may possibly be torn down and replaced.

Site Name: Boulder River Bridge

HOMESTEAD/RANCH/FARM GENERAL FORM No.

1. General Description:(no. of buildings, general use, etc.)

The Boulder River Bridge also known as the "Red" Bridge or "Miller Bridge is a single span 77-foot long and 16 foot wide structure built to serve ranchers and miners in the Boulder-Eklhorn area. This bridge is a pin-connected Pratt through truss built in 1899 by the Gillette-Herzog manufacturing company of Minneapolis, Minnesota.

Key to site sketch map and individual feature/building forms.

2. Historic Ownership:

(1) Jefferson County

(2)

(3)

3. Date of construction:

1899 by Gillette-Herzog Manuf. Co. of Minneapolis

4. Use (present, original):

vehicular bridge

8. Names Associated with Title:

Name (last name first)	Date(s)	Deed Book Ref.
N/A		

9. Tract Book Reference:

Name	Type of Entry HE, CE, DLE, other	Serial No.	Patent No.	Representati on GLO Plat
N/A				

10. Noted events associated with property or with persons associated with property

Boulder valley ranching/mining at Elkhorn. Bridge was determined eligible for the National Register of Historic Places on June 26, 1981.

Site Name Boulder River Bridge

BUILDINGS AND HISTORIC FEATURES Form No.

Structure/feature no. ____________
(Key to site sketch map)

Photo No. ________________

Type: steel bridge
(pin-connected pratt through truss)

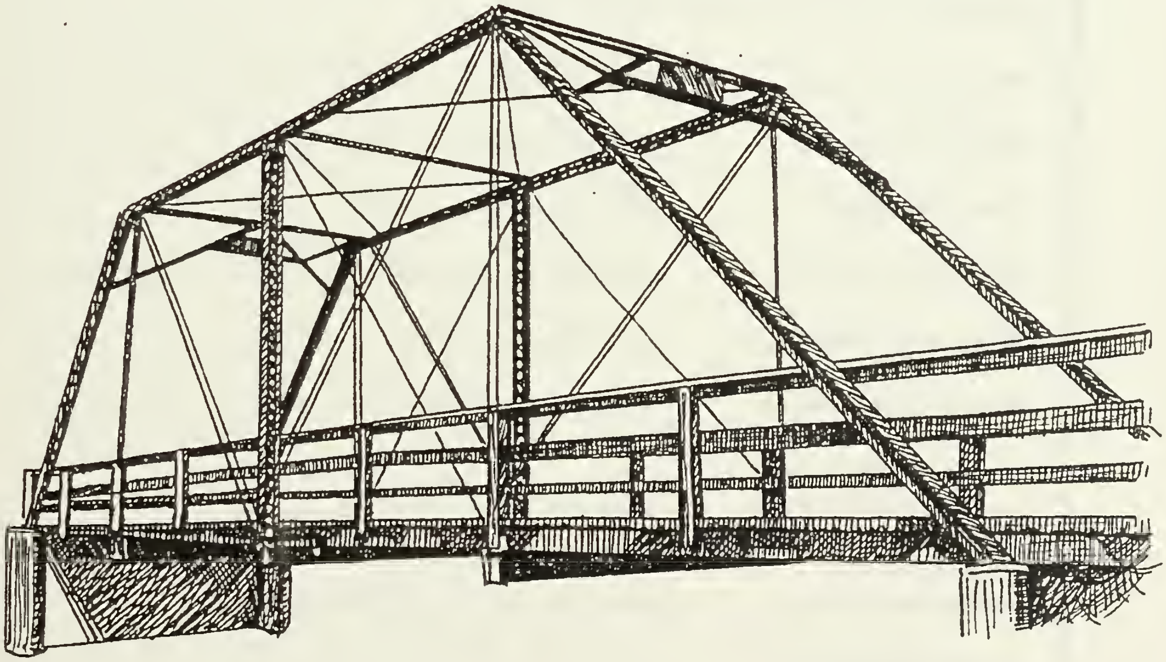
Use: (present and original)
vehicular bridge

Condition:

Sketch and describe: __ construction type __ materials used __ additions __ notching type (if log) __ door and window trim __ decorative elements __ roof type and covering __ foundation __ interior decor __ number and dimensions of rooms __ dimensions of windows and doors __ chinking (if log) __ other features

Other Cultural Materials:

Scale:



SITE FORM NO. 6

PHOTO RECORD AND SITE SIGNIFICANCE

Site Name Boulder River Bridge

Photo record:

Roll & Frame No.	Subject and description	View
#3 B&W		
Frame S-10	Boulder River Bridge	

Management Recommendations (Justify)

Avoid	x	Boulder River Bridge should be preserved as an important historic site in Jefferson County, Montana.
Collect		
Map		
Test		
Excavation		
No further Work		
Other	x	Bridge has been determined as being eligible for the National Register of Historic Places.

Site Significance in terms of National Registry

Integrity of Location yes X no ____ n/a ____

Integrity of Design yes X no ____ n/a ____

Integrity of Setting yes X no ____ n/a ____

Integrity of Materials excellent ____ good X poor ____ n/a ____

Integrity of Workmanship excellent ____ good X poor ____ n/a ____

Integrity of Association excellent ____ good X poor ____ n/a ____

Association with broad pattern historic events yes X no ____ n/a ____

Association with significant persons yes ____ no ____ n/a X

Embodies distinctive characteristics yes X no ____ n/a ____

Has yielded or may be likely to yield important information in history or prehistory yes X no ____

Appendix B

Meeting Minutes, Meeting Handouts and Newsletters

Public Meeting Summary

Project Name: Boulder River S. of Boulder (Red Bridge)
Project Number: BR 9022(10)
Control Number: 1093
Meeting Date: April 13, 1996 - 7:00 pm
Place: Jefferson Cnty Courthouse (Courtroom)

Purpose:

This was an information meeting to exchange ideas with the public regarding the project.

MDT Attendees: Jason Giard, Loran Frazier, Bob Modrow, Jon Axline, Dave Dreher

Attendees:

See attached list.

Summary:

Dave Dreher opened the meeting with a general introduction of the project and our purpose in holding the meeting.

Loran explained how the project came to be considered. He continued by detailing the alternatives developed by the MDT (essentially a new two-lane bridge or rehab of the existing one-lane bridge).

Comments included:

- The existing Red Bridge is a well established and known landmark.
- The bridge has historic and sentimental value which should be saved for future generations.
- Concerns were expressed about the cost of adopting the bridge and what it would be used for.
- A wider bridge will increase traffic and speeds across the bridge.
- The old bridge is a hazard, kids use it as a platform to jump into the river.
- The existing bridge is too narrow, it is a traffic hazard.
- A new bridge would demonstrate progress, it would meet current and future traffic needs.
- A new bridge should be constructed on a new alignment.
- Traffic is heavier that when the existing one-lane bridge was built and it will continue to increase.
- A new bridge is necessary for emergency traffic like the fire trucks.
- People should be more concerned about fighting fires themselves, the fire department is volunteer, by economic necessity, and property owners are their best first line of defense.
- The life expectancy of a rehabilitation may be shortened because of metal fatigue in structural members not replaced in existing structure during the rehab.

- The adjoining property has a problem with the existing bridge in its current location. It spans a "swimming hole" the kids dive into. His place won't be a "recreation area" if the new bridge is built and it isn't over the "swimming hole."

Questions, and brief answers, included:

Q Would fewer children jump from a new bridge?

A Probably, if it wasn't over the swimming hole (answered by another audience member).

Q Would the bridge be any wider at all if rehabilitated?

A No

Q Would the weight restriction for emergency vehicles be alleviated with a rehabilitation?

A Yes

Q What's the history of the bridge (and its historical status)?

A Jon Axline gave a brief history of the bridge including the fact this type bridge was put together with pins and members built elsewhere, kind of like an erector set. It was designated eligible for the National Register in 1981.

Q Would rehabilitation change the historical status?

A No, not if done as proposed.

Q Is any accident data available on the bridge?

A Not by the department because it's a county bridge.

Q What happens next (after this meeting)?

A The county makes a recommendation to the Transportation Commission and the commission makes the final decision based on public input and the county recommendation.

The meeting adjourned with a public expression of appreciation to the department for holding the meeting and providing the opportunity for public comment and questions.

Public Meeting
Sign In Sheet

Project: Boulder River Bridge - S of Boulder
Number: BH 9022(10)
Control Number: 1093
Date: April 13, 1996
Place: Jefferson County Courthouse (Courtroom)

Name *(Please Print)*	Address *(Please Print)*
Allen LeMieux	39 Hubbard Lane, Boulder Mt 59632
Nancy Heide	59 Upper Valley Rd Boulder Mt 59632
Leonard Wortman	P.O. Box H Boulder
John Heide	59 upper Valley RD Boulder 59632
[illegible] Jamison	Box 358 Boulder 59632
Craig J Knowles	P.O. Box 113 Boulder
Terry Minow	Box 565 Boulder
Brady + Darby Smith	" " "
Chuck [illegible]	Commissioner PO Box H Boulder

Public Meeting
Sign In Sheet

Project: Boulder River Bridge - S of Boulder
Number: BH 9022(10)
Control Number: 1093
Date: April 13, 1996
Place: Jefferson County Courthouse (Courtroom)

Name *(Please Print)*	Address *(Please Print)*
Marilyn Stevens	14 Bull Mtn View Boulder

Points in support of saving the Red Bridge
Terry Lynn Minow, Muskrat Lane, Boulder

Paul Richards

1. The Red Bridge is a landmark in the Boulder Valley--the Red Bridge and Red Bridge Road are commonly used terms that are understood by residents of Boulder & the Boulder Valley.

2. The Red Bridge is unique to our area--there are aren't any other old bridges of this type left in the Boulder area. In fact, my sister-in-law, Tresa Smith, who supports keeping the Red Bridge, said that the white bridge on the Elkhorn Road was torn down without any notice to the people in the area.

3. The Red Bridge has character. New bridges are not interesting to look at--in fact, they just look like an extension of the road, not like a bridge.

4. If it will cost approximately the same to build a new bridge as to restore the Red Bridge, why tear down a landmark?

5. The Commissioners have asked the Fair Board, which I chair, about putting the Red Bridge at the Fairgrounds. While we haven't said "No", a bridge without water running under it is beside the point. Also, the Fair Board doesn't have the resources to restore the Red Bridge, and it isn't our mission to do historical preservation.

6. The Red Bridge stood when the other, modern bridges were washed away in 1981.

7. While the Red Bridge is an "attractive nuisance", I don't think that means that it should be torn down. Strict enforcement of the "No Trespassing" and "No Diving" rules, including a few fines, would be the best way to handle those problems.

8. The issue of response to a fire is a serious one, and I understand people's concern about rapid response. On the other hand, our volunteer fire department does not have the resources to provide a great deal of training and fire equipment is limited. Residents should understand that the best way to protect their property is prevention and availablity of their own resources--smoke alarms, hoses, fire extinguishers, fire breaks and others. Even fires in town are not necessarily put out in time to prevent the complete loss of the building.

9. The Red Bridge matters to the next generation. Our two daughters, Brady & Darby, asked to be here tonight. With your permission, they would like to make short statements in support of saving the Red Bridge.

I'm Brady Minow Smith. I'm here on behalf of the Red Bridge.

I think it should not be torn down because it's a landmark. If we take it down, we're taking down a part of our history.

It's a lot nicer looking than one of those new, boring bridges.

I know you don't like kids jumping off it because they might hurt themselves, but why blame it on the bridge?

Please save the Red Bridge.

Thank you.

Hello. I'm Darby Smith. I would like to talk about why we should not tear down the Red Bridge.

First of all, if you took down the Red Bridge, I would feel sad and lonesome. I've loved that bridge all my life.

We take our cows to the hills over the Red Bridge. If you take it down, it will take a long time for the cows to get used to a new bridge.

Save the Red Bridge. Thank you.